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YOGA
PERSONAL HYGIENE
SCIENTIFIC YOGA SERIES
VOL II

YOGA PERSONAL HYGIENE

BY

SHRI YOGENDRA

FOUNDER OF THE YOGA INSTITUTES
IN INDIA AND AMERICA

WITH A PREFACE

BY

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DATE OF THE WHITE MEMORIAL HOSPITAL IN CALIFORNIA
AND NOW SURGEON IN-CHARGE OF THE AMERICAN
BRETHREN MISSION HOSPITAL IN INDIA

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TO ,

MR AND MRS. CHARLES O. GREGG

P R E F A C E

I HAVE had the pleasure of going over the entire volume with the author and I can truthfully say that it has been a source of keen interest for me. We of the West pride ourselves upon the advances we have made but the men of the East may pride themselves upon the heritage of knowledge which they possess. Only a few hundred years ago we discovered the circulation of blood, while the Yoga recorded it thousands of years ago.

It is, as I understand, the purpose of the author to give a comprehensive presentation of this ancient system of hygiene and physical prophylaxis, to give it in a scholarly, scientific, and also popular way, and to incorporate beside it the modern conceptions of personal hygiene. He has left no source untouched as far as it was humanly possible to explore. He is versed in Sanskrit and other ancient languages and is well

vii

Preface

able to do the task to which he has assigned himself

INASMUCH as the work is a research into the past—about 3000 years—and also a resume of the modern thought on the subject it commends itself to those who are interested in this branch of knowledge. Altho I am a Western man and trained in the science of the West I have found this volume quite instructive and I look forward with anticipation to the coming of the succeeding volumes.

Among the points which especially held my interest are the following (1) emphasis on cleanliness within and without (2) the manner towards poise and control of body and mind (3) the non violent, non fatiguing type of physical gymnastics and exercises advocated, (4) the theories concerning the benefits of alternate breathing (5) the use of the diaphragm, and (6) the exceptional care taken by the author to give complete references both to the ancient and the modern literature for all points upon which authority might be desired, and also (7) a consistent effort to avoid being dogmatic.

Preface

It is this careful method of presentation of this subject by the author, and the historical aspect of the material presented that has commended itself to me. As a surgeon and physician I cannot subscribe to some of the practices of these ancient investigators, but my academic interest in their theories, beliefs and methods is not lessened thereby. It is upon this basis that I feel that this work fills a *unique* place in the literature on the history of personal hygiene.

Since I am personally acquainted with the author and am convinced that he is the man pre-eminently fitted to do this kind of research work (not only because of his extensive intimate association with the ancient writings but also because of his study in England and the Continent and his four years work in America in 1919-1922 when he was associated with many of the members of the medical profession) I do not hesitate to commend this work to those who are interested in this type of research.

JOHN W. FOX

TABLE OF CONTENTS

	PAGE
PREFACE	vii
LIST OF ILLUSTRATIONS	viii
INTRODUCTION	1
 CHAPTER I IDEALS OF YOGA HYGIENE	
§1 Hygiene A Religious Observance	6
§2 Cultural Effects of Yoga Health Ideals	7
§3 Disease A Physical Sin	11
§4 The five fold purpose of Yoga hygiene	12
(a) Physical Efficiency	12
(b) Purification of the Body	12
(c) Removal of Disease	13
(d) Longevity	13
(e) Spiritual and Moral Elevation	14
§5 The Yogin A Hygienic Curiosity	14
 CHAPTER II POSSIBILITIES OF ETERNAL YOUTH	
§1 Causes of Old Age	17
§2 A Few Demonstrations of Organic Control	18
§3 Art of Rejuvenation	19

TABLE OF CONTENTS

	PAGE
PREFACE	vii
LIST OF ILLUSTRATIONS	viii
INTRODUCTION	i

CHAPTER I IDEALS OF YOGA HYGIENE

§1 Hygiene A Religious Observance	6
§2 Cultural Effects of Yoga Health Ideals	7
§3 Disease A Physical Sin	11
§4 The five-fold purpose of Yoga hygiene	12
(a) Physical Efficiency	12
(b) Purification of the Body	12
(c) Removal of Disease	13
(d) Longevity	13
(e) Spiritual and Moral Elevation	14
§5 The Yogin A Hygienic Curiosity	14

CHAPTER II POSSIBILITIES OF ETERNAL YOUTH

§1 Causes of Old Age	17
§2 A Few Demonstrations of Organic Control	18
§3 Art of Rejuvenation	19

Table of Contents

	PAGE
§4 Scientific Acknowledgements	20
§5 Yoga Outlook on Death	23
CHAPTER III CARE OF THE TEETH MOUTH	
TONGUE EAR AND SINUSES	
§1 The Teeth and Mouth	25
(a) The Tooth brush	27
(b) The Dentifrice	28
(c) The Mouth wash	29
§2 The Tongue	30
§3 The Ear	32
§4 The Frontal Air Sinuses	34
§5 Case No. 438	37
§6. The Hygienic Time Table (Section I)	38
CHAPTER IV CARE OF THE NOSE	
§1 Importance of Nasal Cleansing	40
§2 Various Methods of Nasal Cleansing	42
§3 Jalineti	43
(a) Water Sniffing	43
(b) Reverse Process of Water Sniffing	48
§4 Allied Curative Processes	49
§5 The Hygienic Time Table (Section II)	50

Table of Contents

PAGE

CHAPTER V. CARE OF THE EYE

§1	The Real Eye	53
§2	Eye strain	54
§3.	The Sun and Moon Gazing	55
§4	Eye Gymnastics	57
	(a) The Nasal Gaze	60
	(b) The Eyebrow Gaze	61
	(c) The Right Shoulder Gaze	61
	(d) The Left Shoulder Gaze	61
§5	Massage	62
§6	Eye Bath	62
§7	The Hygienic Time Table (Section III)	63

CHAPTER VI. CARE OF THE DIGESTIVE ORGANS (Stomach)

§1	Four Apartments	65
§2	The Five Food Laboratories	67
	(a) The Mouth or the Mill	67
	(b) The Stomach or the Mixing Plant	68
	(c) The Liver or the Refinery	69
	(d) The Small Intestines or Absorbing Chamber	69
	(e) The Colon or the Waste Disposal System	70

Table of Contents

	PAGE
§ 3 Unity of Cause in Disease	70
§ 4 Responsibilities of the Stomach	71
§ 5 Dhour or Stomach wash	74
§ 6 Physiological Effects of a Stomach wash	79
§ 7 A Few Facts	80
§ 8 Some Useful Suggestions	82
§ 9 Other Accessories	83
§ 10 The Hygienic Time Table (Section IV)	84

CHAPTER VII CARE OF THE DIGESTIVE ORGANS (Colon)

§ 1 Auto-intoxication	87
§ 2 Methods of Elimination	89
§ 3 Intestinal Gases	90
§ 4 Anti gas Postures	92
§ 5 Postures for Avoiding Constipation	94
(a) Savangasana	95
(l) Sirasana	98
§ 6 Exercises for Stretching the Abdominal	
Muscles	102
§ 7 Internal Massage	106
§ 8 A Valuable Contribution	108
§ 9 Enema	112
(i) Favourable positions for Enema	112
(l) Use of Udhyana in Enema	113

Table of Contents

	PAGE
§ 10 A ray Investigations	115
§ 11 Early Demonstrations	116
§ 12 False Anti peristaltic Hypothesis	117
§ 13 The Hygienic Time Table (Section V)	118
§ 14 Caution	119

CHAPTER VIII CARE OF THE RESPIRATORY

APPARATUS

§ 1 Four fold Act of Respiration	123
§ 2 Deep Breathing	124
(a) Air hunger	126
(b) Defective Breathing	127
§ 3. Rejuvenation through Breathing	129
§ 4 Preliminary Observances	131
§ 5 Yoga Methods of Breathing	136
(a) Kevala Śūnyaka	136
(b) Kevala Puraka	137
(c) Kevala Kumbhaka	139
(d) Kevala Rechaka	141
(e) Alternate Breathing	142
§ 6 Deep Breathing Vs Yoga Breathing	145
(a) Absorption of Oxygen	146
(b) Removal of Carbon Dioxide	148
(c) Neutralization or Rhythm of Move- ments	149

Table of Contents

	PAGE
(d) Volume of Arterialised Blood	151
(e) Sedative Nervous Effects	152
(f) Conservation of Prana and Longevity	156
§ 7 A Remarkable Testimony	159
§ 8 The Hygienic Time Table (Section VI)	161

CHAPTER IX CARE OF THE SEXUAL ORGANS

§ 1 Sexual Instinct	163
§ 2 Psycho-analytical Approach to Sex	164
§ 3 Cultural Effects of Sex	166
(a) Spiritual	167
(b) Moral	167
(c) Mental	168
(d) Physical	168
§ 4 Evils of Ignorance in Sex Matters	169
(a) Before and After Puberty	170
(b) During the Married Life	171
§ 5 Sex Education	172
(a) In the School	173
(b) At the Home	177
(c) By Literature	178
§ 6 Modern Sex Hygiene	179
§ 7 Yoga Method of Sublimation	180
§ 8 Interpretation of Brahmacharya	183

Table of Contents

	PAGE
§ 9 Some Practical Suggestions	185
(a) Useful Processes	186
(b) Cool Baths	191
(c) Irrigation of Genital passages	192
(d) Active Continence	194
§ 10 The Hygienic Time Table (Section VII)	198

CHAPTER X CARE OF THE BRAIN AND NERVOUS		SYSTEM
§ 1 Brain as an Organ of Mind		200
§ 2 Yoga Neurology		202
§ 3 A Great Telegraphic System		203
§ 4 Importance and Control of the Nervous	System	204
§ 5 Nervous Disorders		206
§ 6 Mental Hygiene		209
(a) Education		210
(b) Freedom from Emotions		210
(c) Concentration		213
§ 7 Recreation		214
§ 8 Art of Relaxation		215
§ 9 Postures for Relaxation		216
(a) Dhadhasana		218
(b) Śavasana		219
(c) Adhvasana		220

LIST OF ILLUSTRATIONS¹

FIGURE		PAGE
1	Cleansing the root of the tongue, showing the position of fingers and the manner in which they are used	31
2	Sniffing the water, showing the position of the inverted palm containing the liquid	44
3	<i>Siddhāsana</i> in an equilateral triangle to show the symmetry of pose and poise	58
4	Technique of water-light reflection for gaze	60
5	Fixing the eyes on the tip of the nose (<i>for nasal gaze</i>)	61
6	Fixing the eyes on the space between the eyebrows (<i>for frontal gaze</i>)	63
7	Squatting position generally assumed during the practice of yoga toilet	77

¹ I am pleased to acknowledge that figures 5 6 13 14 15 and 21 have been reproduced from the *Yoga Vimāna*. This *not* because of the fact that they cannot be replaced with the author's own photos but because they incidentally represent the essential details at their best.

The rest of illustrations however even while taken from the author's own poses owe much of their merit to the artistic abilities of Mr Friedrich Ruleder of the Basel Mission of Germany to whom I am greatly indebted for his valuable assistance.

List of Illustrations

FIGURE		PAGE
8	Drawing <i>in</i> the abdomen towards the spine after complete exhalation	78
9	<i>Parāṇamul tāsana</i> when practised in a sitting position	91
10	<i>Parāṇamul tāsana</i> as may be practised in a lying down position	93
11	Position of an inclined plane (specially adopted but which may be easily improvised)	95
12	<i>Sarāṅgasana</i> with the jugular notch (final position)	97
13	<i>Sirāsana</i> as in prayer (the initial stage preparatory to lifting the body)	99
14	<i>Sirāsana</i> (first stage)	100
15	<i>Sirāsana</i> (second stage)	101
16	<i>Sirāsana</i> (third stage) as should be followed in its final stage	104
17	<i>Dhanur tal rāsana</i> in its initial stage	105
18	<i>Dhanur tal rāsana</i> as should be practised in its final stage	107
19	The position of the thorax and the abdomen during <i>complete inhalation</i> (recommended only for <i>internal massage</i>)	109
20	The position of the abdomen during <i>forced exhalation</i>	110

Last of Illustrations

FIGURE

TABLE

21	Radiograph showing the success of <i>high</i> enema easily managed by the process of <i>voga basti</i>	114
22	Wrong nasal expression during inhalation showing the contortion of the facial muscles	134
23	Right nasal expression during breathing with the facial muscles relaxed and the nostrils elated	135
24	Compressed abdomen and expanded chest during retention of breath	140
25	The best design for using fingers to close the nostrils alternately or both	143
26	<i>Goralsasana</i> (best suited to stop seminal discharges)	189
27	<i>Dradhasana</i> , the right side position best suited for sleep	218
28	<i>Śarasana</i> for complete relaxation	220
29	<i>Pāśchimottāsanā</i> in the semicircular arch showing the maximum stretch ing of the spinal column	222
30	<i>Matsyendrāsana</i> (front view)	224
31	<i>Ardha Matsyendrāsana</i> (back view) showing the lateral twist of the spine	226

INTRODUCTION

THIS second volume of the *Scientific Yoga Series* proposes to deal with the subject of personal hygiene as practised by the yogins. It offers more or less a comprehensive review of the entire subject from the *yogi* point of view in respect of the care of the body, comparing very favourably with the most modern developments in science.

The *yogi* hygiene however deserves special attention and admiration for two distinct reasons viz (i) its antiquity which can hardly be doubted representing the earliest attempts at personal prophylaxis which secures for it the topmost place in the history of preventive medicine and hygiene and (ii) its exceptionally wholesome practical and scientific outlook upon the subject of individual hygiene surpassing in certain details e.g. the processes of internal purification and self-treatment even our present knowledge and investigations in these matters. The object of this course of conduct is to guide natural living by rational measures promoting longevity—such measures having been safeguarded by centuries of experience and personal experimentations.

Unfortunately the practical *yogi* is grossly misrepresented by a huge number of ill-informed mis-

Introduction

guided and irresponsible authors like Barnett Menicol Basu Rowlinson Abbe Dubois and others is a wild and nauseating human being. Their mischievous statements only go to prove the extent of their ignorance as will become evident from the contents of this work. There is really to be sure no man in India who follows a religiously strict code of personal hygiene as does a scientific yogin.

There are no doubt numerous elaborate and authoritative treatises on the subject of personal hygiene by the modern medical students but none that presents the yoga method of right living upon a physiological basis which embraces a very large field of hygiene hitherto investigated by these authorities. The object therefore, in introducing the yoga personal hygiene is to present the entire code of living as adopted by a yogin for such scientific investigations and criticisms as this subject may deserve.

With an object to avoid unnecessary bulk the anatomical and physiological description of the various organs of the body (with their illustrations etc) has been purposely avoided as this may be properly studied through many authoritative texts edited by competent medical students. The importance of maintaining these organs in their healthy state has also been taken for granted (on the strength of its being an acknowledged fact) and thus the yoga health practices and suggestions have been offered with this definite understanding

Introduction

Only those issues which need to be emphasized clearly or pointed out specifically from the yoga point of view have been made the subject of casual discussions.

As to the system of Sanskrit transliteration, glossary, bibliography, index and other general items of introductory the same remarks as contained in the first volume of this series, namely, 1 *History of Practical Yoga*, prevail excepting the fact that references from the Yoga Upaniṣads have been intentionally omitted in this work to avoid mis emphasis and repetition. The Sanskrit manuscripts which I have referred to are (in original) at Bohar and Tillah Mathas of the yogins from which casual notes have been jotted down by the author during his visit to these yoga monasteries (1926).

The medical reports and personal testimonials included in this work are of those patients who were treated by the author in his Yoga Institutes both in India (Bombay, 1918-19 under the medical supervision of Dr. Ghasawalla) and in America (New York, 1919-22 under the medical supervision of Dr. Hack of the Life Extension Institute and New Jersey, 1921-22 under instructions of Dr. McSutton and Dr. Rice of California and often in consultation with Dr. Ainsden of the Bloomingdale Hospital).

It may be also observed that the practices recommended in this volume were acquired at first hand by me from a practical teacher of distinction His Holiness Paramahansa Madhavadisji whom I frequented near

1*

Introduction

the Narbada (Malsar, 1915 16) They are further revised in the light of my own experiences and those of my patients and students corroborated with the Sanskrit texts in original combined and compared with the knowledge of the Western Sciences and are here offered to the layman with a view to serve him a daily course of study

Moreover, I am much indebted to my esteemed friend Dr John W Iox of the White Memorial Hospital (Los Angeles Calif) of America, now Surgeon in charge of the American Brethren Mission Hospital in India for his certain valuable suggestions while pursuing the manuscript with the author and for expressing his keen interest and whole hearted sympathy in my undertaking and for finally greeting this work with his preface

Stripped of its superfluous technicalities, this gospel of health as taught by the practical yogins—the various yoga practices rules, regulations observances and restraints upon subjects of such general interest as care of the body, food, bath, sleep elimination of poisons etc—contributes most certainly a large amount of solid and practical material to our existing knowledge on personal hygiene It further imparts the knowledge which embraces the extension of human life, not only as to length, but also, as to breadth and depth

CHAPTER I

IDEALS OF YOGA HYGIENE

How can one, who does not know (the care of) his own body, hope to achieve success in Yoga?

Gorakṣapaddhati, 1, 14

STRANGE as it may seem, the one subject which every one admits should be taught thoroughly—namely, *how to keep healthy*—has been largely neglected. Many of us know when Napoleon lived or how far is Venus from us but very few of us have received even the fundamental knowledge of proper living upon a physiological basis. We are generally stuffed with such knowledge as need not be taught at all, at the sacrifice of such knowledge which need to be learned first by every one of us. To use a Baconian phrase, “we must determine the relative value of knowledge”, and, as Herbert Spencer suggests, should give precedence to the useful, real and effective over the non-useful, conventional and ornamental.

Further, it needs hardly to be pointed out that the

Ideals of Yoga Hygiene

very care and knowledge of the body which forms the basis of and on which depends all the activities of a being should be considered a subject of vital importance and any knowledge leading to its well being should be treated as essential and should therefore be imparted first

Hygiene A Religious Observance

§ 1 A practical yogin is by faith a spiritual being but that ideal does not prevent him from giving due attention to the care of his own body. On the contrary his ambition is '*to achieve the unachieved*' (in the *Rigveda* sense) not only in the realm of mental, moral or spiritual world but also in the physical plane. Practical Yoga thus, aims at a perfectly harmonized and well balanced course of physical, mental, moral and spiritual culture.

Every student of Yoga right in the beginning, is made to realize most thoroughly and definitely that the physical well-being of an individual is the *only* highest means of attaining whatever is desired. His first duty therefore, consists in maintaining perfect health through religious observance of a prescribed form of *scientific living* what, in the modern term, we call *hygienic*.

It is indeed remarkable that, during a particular stage of human history when nothing absolutely was known of personal hygiene, the practical yogins should formulate a code of systematic living upon a strictly biological basis. *This was over three thousand years*

Hygiene A Religious Observance

ago, and the yoga knowledge of maintaining good health, when analysed in the light of our most modern developments in science, indeed surprise us with its accuracy, wholesomeness and scientific judgment

Moreover, the yoga personal hygiene, in many important principles and details, surpasses even our existing knowledge of hygiene (e.g. internal purification and elimination of poisons), as will become evident from a comparative study of this all important subject. Besides, it is more complete and *practical* than the mere health suggestions found in the modern education of hygiene. Thus, for example the elimination of poisons is never so scientifically and *naturally* achieved as is done through the methods suggested by the yoga hygiene. Scrupulous cleanliness (*both internally and externally*) is a strict observance¹ with a yogin and every possible care is exercised to see that *every part of the body* receives proper attention *daily*, and every organ is kept in its perfectly healthy state. Hygienic life is, thus, a *necessity* for even the slightest indisposition of the body disqualifies the student for further progress in his yoga endeavours²

Cultural Effects of Yoga Health Ideals

§2 The really important feature of the yoga hygi

¹ Cf. *Yogasutra* II 32. *Gheranīśamhitā* I 8. also compare *Yogaratna* III 5

² Cf. *Hathayogapradīpikā* II 4

Ideals of Yoga Hygiene

ene is its all round cultural effects for the health ideals preached by the ancient yoga masters do not stop at the avoidance of invalidism, but aim at exuberant and exultant health both of the mind and the body. The object, most certainly, is to see not *how much* strain our strength can stand but how *really great* we can make that strength.

No man, however, is so conscious and careful of his physical health as is a scientific yogin who serves as an ideal type of perfect physical purification or *deha-suddhi*. The critical student is cautioned not to be misguided by his observation of the life of those who deceitfully pose or pass as genuine yogins. The truth is that the *real* type of a scientific yogin is *hardly to be seen* in public even in India (for he very seldom prefers publicity to his unusually quiet and peaceful life in a secluded dwelling) much less to expect him in any other country. References had to be made even as early as the period of the *Great Epic* (*Mahabhārata*, 300 B. C.) emphatically to disassociate the real yogin from those who passed under the same name¹.

Though of very great antiquity (followed secretly and jealously by a selected group of *self* culturists

¹ Thus in contrast with those who practise the *scientific rules of the skilled yogin*, the one legged up-arm ascetic belongs to the vulgar cult. See *The Great Epic of India* by Prof. E. W. Hopkins p. 18⁹

Cultural Effects of Yoga Health Ideals

from generation to generation) the importance and influence of yoga personal philosophy became gradually recognized as the ideal and a necessity of physical purification. This influence was so profound that every known system of Indian thought including even the anti-theistic schools of Jainism and Buddhism incorporated a large number of yoga processes in their tenets and formulated their own scheme of Yoga variously called (according to the school of thought to which the same became associated) Juna Yoga, Buddhist Yoga, Jñāna Yoga (more correctly Vedānta Yoga) etc.¹

However to put it broadly the object of personal hygiene as taught by Yoga is to set forth plainly the best means of developing and maintaining physical, mental, moral and spiritual health. It contains besides *self* culture many things you should know to keep you in good health—that good health which cannot be bought in bottles nor by money and still which stands as the *first* requisite of all happiness and success in life. It tells you in simple words what the medical authorities in all countries teach on subject of such general interest as eating, drinking, breathing, bathing and

¹ The cultural effects of the yoga health ideals may be measured from the fact that all Systems of Indian Thought agree to Yoga being the *only practical means* of deliverance. Cf. *History of Practical Yoga* by Shri Yogendra (Vol. I of this series).

Ideals of Yoga Hygiene

the like. It tells you in a nut shell *how to live* properly, in conformity with the rules of personal hygiene of the nose, lungs, eye, ear, the respiratory and sexual apparatus, and also the nervous system.

The mere extension of human life through individual hygiene is not only in itself an end to be desired, but the most direct and effective means of lengthening human life are, at the same time, those that make it more livable and always add to its power and capacity for achievement. The first and most *sacred duty* of an individual, therefore, consists in taking care of his own body.

Yoga says that *it is just as easy to be well as to be not* only that a few old conventional habits have to be changed—modified or corrected in light of the yoga experiences. That some of these habits are radically wrong in many particulars and are responsible for an untold amount of harm, misery and a vast number of premature deaths, has recently been ascertained by the help of medical researchers.

There is no exaggeration when I say that health is man's birthright—that it is just as natural to be well as to be born, and that from mere carelessness, ignorance or transgressions of hygienic laws arise most disease and tendency to disease. Practical Yoga, fortunately, lays great stress upon the purification of the body, and the care of the body is thus regarded as one of the

Cultural Effects of Yoga Health Ideals

most sacred duties of a yogin for he is taught that good health really is the primary requisite of all religious merits and endeavours (*śaśīnamādyam Ithau dhanamāadhanam*)

Disease A Physical Sin

§3 Disease thus in the yogi sense is a physical sin and the man is supposed to be just as much responsible for his ill health as he is for his ill actions. Similar views have been often expressed by the modern writers on hygiene. For example, Dr Pyle says that "Persons who treat their bodies as they please and transgress rules of personal hygiene of which they should have a definite understanding are physical sinners"¹

May it not be wrongly supposed that the rules of yoga hygiene are restrictive. On the contrary, they are extremely liberating and free us from a huge number of restrictions we have consciously or unconsciously placed upon ourselves leaving no room for our own power to manifest, to be useful, or even *to enjoy life*. The principles and methods elaborated in the succeeding chapters are absolutely rational, easy and simple, and the only fear that may be entertained is that their very simplicity and availability may not lead to their deplorable neglect and the failure to realize the wonder

¹ See *A Manual of Personal Hygiene* by W L Pyle A M M D ix

Ideals of Yoga Hygiene

ful benefits following their careful and continued observance

The Fivefold purpose of Yoga Hygiene

§ 1 The ideals of the yoga individual hygiene may however be summarized thus having as their objects (a) the maintenance of highest physical efficiency (b) the purification of all internal and external organs of the body (c) the removal of disease (d) longevity in the sense of getting beyond old age and death and (e) the mental moral and spiritual perfection and elevation leading to ultimate deliverance (*muliti*)

(a) *Physical Efficiency* The maintenance of highest physical efficiency depends largely upon the mode of living and health of both the body and the mind. The reservation of surplus vitality (which is possible only by avoiding exaggerated living) is another important accessory which needs careful adjustments and in these respects the yoga hygiene offers most reliable suggestions. A yogin by raising the tone of his body and by a corresponding increase in the conservation of energy (by checking the expenditure of vital forces) secures the best measures for animal economy

(b) *Purification of the Body* No one who has personally undergone the yoga practices will for a moment doubt the validity of this claim. It may be further observed that there is a general agreement among

The Twofold purpose of Yoga Hygiene

all the Sanskrit authorities that the purification of the body is best achieved through the exercise of yoga hygiene¹. This is attained by a variety of purificatory processes adopted mainly with a view to secure complete *internal* cleanliness through elimination of poisons from the body.

(c) *Removal of Disease* Apart from their hygienic importance the yoga mode of living and practices have a distinct therapeutic value. Thus they not only help an individual to maintain good health all along his study of higher Yoga but also undertakes to cure him of such ailments as may have hitherto obstructed his path of higher pursuits².

(d) *Longevity* The idea of old age and death has occupied the mind of all leading scientists and it will be interesting to follow what scientific Yoga has to suggest in this direction for the practical yogins have not left this vital question unanswered. It is argued that when the student reaches the perfect state of *Hehara*

¹ Cf. *Garhapurana* quoted in *Yogasa Uj* p. 53.

² Compare *Haṭha-yogasamhitā* III 2 ff.

Again we are told that before the period of Caraka the great ancient Hindu medical authority the yogins and other religious followers found disease and they thought that their science will be disturbed if they did not take to some system of curative methods and preventive medicine (Cf. *Caraka Samhitā sūtrasthānam* I 6 ff). For elaboration and details Cf. *A History of Practical Yoga* Vol I by Shri Yogendra (Chapter on *The Development of Yogotherapy*).

Ideals of Yoga Hygiene

(a stage of voluntary and conscious hibernation) where he is supposed to drink nectar (*amrita*)¹ oozing out from the moon (a symbolic term for some important physiological organ)² he gets beyond old age and death³

(e) *Spiritual and Moral Elevation* As previously observed the aim of yoga hygiene does not end with a mere acquisition of physical fitness. It also aims at mental, moral and spiritual elevation which indeed depends upon the physical purity and well being. The moral code of conduct which forms an essential part of the yoga hygiene really contributes much towards creating a healthy moral and spiritual atmosphere⁴

The Yogin's Hygienic Curiosity

§ 5 The claims of the yogins in the achievement of the above objects may or may not be true in all details, but that is no reason why they should be treated as *a priori* untrue. The honest course for a critic or a scientist would be to either personally undergo these

¹ This may refer to either spinal fluid hormone or uterine milk

² Less is known but much has been said recently by the modern physiologists about the hibernating gland. For further discussion on the subject of hibernation reference should be made to Vol VII of this series entitled *Higher Practices of Yoga* (awaiting publication)

³ Cf. *Harḍyagyaṇīya* 1a with the commentary called *Yoga u* III 44 88 *Saṅgīta* 1st III 87

⁴ For exact details of this issue Cf. *Yoga Udal Hya* Vol III of this series (awaiting publication)

The Yogin and Hygienic Curiosity

methods or cause someone else to undergo the same and then observe the developments not so much with doubt and suspicion as with sympathy.

Whatever may be the difference of opinion be on certain details, it can hardly be gainsaid that the life of a yogin is a *hygienically measured unit* and an ideal of self culture unprecedented (considering its antiquity) in the history of preventive medicine and hygiene. Examined in the light of our most modern critical knowledge of these subjects the whole scheme of yoga personal hygiene represents the best means of longevity. No system can hope to excel the main principles and practices involved in the thorough elimination of poisons from the body (through natural means)—a factor which stands as a main consideration in promoting longevity. Letting aside public or domestic hygiene, the individual prophylaxis taught by yoga do not lack the essentials of a scientific living upon a physiological basis for it embraces practically the care of the whole body.

Even though followed only by a certain religiously minded sect of people in India and presented in its primitive originality this code of personal hygiene need not prejudice the scientific students for what we are actually concerned with is the value of the material placed before us.

To the followers of current *unnatural* and *nervous* mode of life no doubt, it will appear that a yogin is rather unnecessarily over particular about his health.

Ideals of Yoga Hygiene

and that the too many details of the yoga individual hygiene are at present absolutely out of consideration (i) for it requires the sacrifice of time (both in acquiring these habits and in putting the knowledge and processes so acquired into practice) and (ii) because the yoga scheme could not be easily grafted in our daily duties (the requisites essential to the study of yoga practices being diametrically opposite to our present mode of living) To a modern hyman therefore the yoga is merely a *hygienic curiosity* and no more But when it is considered how much time and money is saved and how much more efficient and useful we can make our living *by being healthy* any objection (e g the sacrifice of time inconvenience etc) becomes evidently ridiculous

CHAPTER II

POSSIBILITIES OF ETERNAL YOUTH

By the continuous practice of Yoga the
yogin who in years is old becomes young
again

Hathayogapradīpikā I II 47/III 65

Such a yogin overcomes death

Sūtrasamhitā III 91/IV 70

OLD age and death have been for generations the most baffling problems to the scientists of all ages. Suggestions of a varied nature have been offered and more are yet forthcoming but none that have stood the test of time or of reason. The last we hear on this subject is from Dr. Voronoff with his favourite monkey gland who assures us that rejuvenation is quite possible.

Causes of Old Age

§1 Dr. Percy Friedenbergh observes in a recent article (*New York Herald*) that the main causes of old age are (i) the deformation in the curvature of the spinal canal (when becoming marked, interferes with the normal nervous activities) (ii) the degeneration of air cells in the lungs (unable to carry on efficiently the work of oxidation) (iii) the atrophy of the endocrine

glands (leading to loss of preventive and resisting powers in matters of self preservation, and sub-normal growth of certain organs with lowered activities), and (iv) the worn-out condition of the heart (the circulation of blood lacking certain impetus to penetrate or move freely throughout the system)

4 Few Demonstrations of Organic Control

§ 2 Needless to state that the yogins have given these matters their most critical attention, besides the code of hygiene for proper living, and every organ which is supposed to be worked involuntarily is brought under one's own control and volition. Quite a large number of demonstrations of this nature are available, even under the present conditions, tested by scientific investigators. For example, there are instances of (i) inflating only one of the lungs to thrice the size of the other, performed by the author before scientific men including Dr. Meltzer of the Rockefeller Research Institute¹, (ii) stopping the beating of the heart, a demonstration by Desabandhu conducted under medical supervision at the Grant Medical Union, 1926², and (iii) to be buried alive several feet underground covered over with earth for a period of eight days, a performance

¹ Cf. *India The Land of Miracles* by Vincent Anderson p. 8. The reports also appeared in local press in America during September 1920.

² Cf. *The Mysterious Kuntalini* by Dr. V. G. Rele pp. 7-8 ff.

Art of Rejuvenation

in Berlin by an Orientalist under medical tests¹ These facts (the control of the involuntary organs and of the whole body) show most certainly how far the practical yoga succeeded in mastering certain scientific truths hitherto unknown but through the knowledge of which the yogins are able to exhibit such powers as transcend our present knowledge²

Art of Rejuvenation

§ 1 The yogins believe that it is quite possible to avoid old age and further that even those who have grown old can become young again through continuous and careful elimination of poisons from the body This course of purification or *malasuddhi* is supplemented by vigorous body-building methods, to be sure, not of gymnastic nature, that encourage proper feeding and activities of all the organs of the body (previously

¹ Besides the record case of four months interment of Sadhu Haridasa (Cf *Gleanings of Europe* (Tr) Appendix by S C Visu p vii) there are quite a number of other cases reported by medical students in India who have observed such performances The Berlin case above cited is illustrated and reported in *Popular Mechanics* 1920 p 840

² In freeing himself completely from the natural world with its laws and from the sphere of natural causation altogether the yogin becomes logically a supernatural being endowed with all manners of powers which because they transcend the category of cause and effect we call magical *History of Religions* Vol I by C F Moore p 323

Possibilities of Eternal Youth

brought under control through gradual training) What the modern scientist tries to achieve by the grafting of the glands etc. the yogin does it by self-treatment e.g. giving complete rest to the entire system through conscious hibernation extending over a period of one month or more and attracting vitality of the whole system by suspending all other activities at a particular point where degeneration is apt to commence and thus indirectly stimulate that portion to its normal activities. There are quite a large number of processes for all such treatments to avoid old age and a reference for their elaboration and technical details be made in the succeeding volumes of this series. Suffice it to say that Yoga promises young age to the old and the yoga personal hygiene is the real stepping stone.

Scientific Acknowledgements

§4 Physiologists of such eminence as Dr Halliburton and others admit that death from old age is however comparatively rare the common cause of death is accident in which term we also include disease¹. In young age when the vitality of an individual is at its height many a disease is overcome but as the powers of resistance diminish with increasing years some ailment invited unconsciously mostly through habitual indolence attacks some important organ and

¹ Cf *Handbook of Physiology* by W D Halliburton M D p 937

Scientific Acknowledgments

leaves the body unable to repel its attack. This ends the history of an individual and we call it death.

That it is possible not only to live for more than one hundred years but even for an indefinite length of time is now acknowledged by the most conservative and critical medical authorities. There are instances on record of persons who have lived more than two hundred years and, from the current news, we also hear of people who have passed two centuries and are still going strong. The practical yogins hand us details of persons who have lived for more than three centuries¹. Bernard Shaw who prophesies in his remarkable book *Back to Methuselah*, a life of three centuries for man, may not be so absurd as at first sight he seems. It is possible, however, that under the present conditions of artificial living, Mr. Shaw's prophecy may appear a bit too exaggerated, nevertheless, there is a possibility that human life may be extended many years. At what future period three hundred years may become the average of human life we are unable to determine. But in this day and age of advancement, one cannot afford to laugh at such prophecies.

How rejuvenation is possible at least in the case of a worm is described by Dr. F. A. E. Crew in a recent number of *The Nineteenth Century*. "If the flat worm,

¹ Cf. *Harayajapradipika* with Jyotsna I 5 6 7 ff. *The Dalistan* translated from the Persian by Shea and Troyer, Vol II pp 137 138 ff (1843 Fd.)

Possibilities of Eternal Youth

planaria is starved he says it will shrink from 25 mm. to about 6 mm. and then it will exhibit the same rate of metabolism as does a young one of equal size. The rejuvenated individual not only looks young but is young and grows again when fed into an adult. moreover this process can be repeated indefinitely and it is on record that a planaria has been made to live about twenty times longer than the ordinary length of life of this form. It has been claimed adds Dr Crew that systematic fasting has accomplished wonders in the case of the human also and it is quite likely that at some later date we might manage to prolong human life as well.

The yogins in India who claim the knowledge of the process of rejuvenation some thousands of years back even before the death of Christ leave us a number of secret practices as a precious treasure chest and from my own personal knowledge I can assure the readers that their methods and technique are absolutely in conformity with the known laws of Nature and the modern revelations of the medical science. There is nothing absurd in the claim of eternal youth which Yoga promises for we are assured by eminent medical authorities like Dr Fisk and Dr Fisher that so far as science can reveal there seems to be no principle limiting life. There are many good and bad reasons why men die but no underlying necessary reason *why* they must die.¹

¹ Cf. *How to Live* (fifteenth edition) p. 161

Yoga Outlook on Death

Curel whose work in the war zone has contributed so much to surgical process has kept tissue cells of animals alive outside of the body for the past seven years. These cells are multiplying and growing apparently unchanged by time to all appearances *immortal* so long as they are periodically washed of poison and nourished in a proper medium. If we could at intervals thoroughly wash man free of his poisons and nourish him there seems to be no reason *why* he should not *live indefinitely*.¹

Yoga Outlook on Death

§ 5 Towards death a practical yogin however is very indifferent for as soon as he feels that his work in life is over like the snake he is happy in giving up his old skin.² But even while such a pessimistic attitude is maintained by the yogin it is claimed that he can quite easily overcome death if he so desires. No practical proof of this statement is available at the present time but the theory still holds good and the possibility of eternal life still remains a possibility.

Leaving aside such doubtful claims and exaggerations one thing nevertheless seems to impress us that the secret of certain supernatural psycho physiological phenomena (through the knowledge of which the

¹ See Supplementary Notes *The Concept of Clio Disease*

² Cf. *Samlajyara ucimastam* IV 6 *Ramjana* III 15
326

Possibilities of Eternal Youth

yogins are able to exhibit wonders and especially the entire control of their whole being) must give the practical student a key to extend the period of his life

Practical Yoga really supplies us all the necessary particulars and details of such a system. The processes consist of self treatment of cleansing purifying and strengthening nature which aid in overhauling the entire physical machinery and are always followed under the close guidance of a practical teacher. Their technique is not often revealed and the secret is thus handed down from the teacher to the disciples for generations.

CHAPTER III

CARE OF THE TEETH, MOUTH, TONGUE EAR AND SINUSES

The purification of the teeth mouth tongue ear and the sinuses which forms the first duty of a yogin should be attended with great care every morning

Haṭha yoga saṁhitā p 8

The Teeth and Mouth

§ 1 THE one source of infection and self poisoning so open to all kinds of disease and especially to pus bacteria is the mouth. Infections through the mouth occur too often for the very simple reason that the mouth secretions and the surrounding mucous membranes do not possess the same protecting power as do other organs of the body. It has been lately observed by medical researchers that infection occurring at the extremity of the roots of a tooth or within the tooth itself, often has a deleterious effect upon the general health.

There are two main forms of mouth-disease (i) dental caries a decay largely consisting of chemical process and (ii) pyorrhea also known as Rigg's disease which is an infection by pus bacteria and sometimes

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The Teeth, Mouth, Tongue, Ear and Sinuses

also by animal parasites. Both these maladies chiefly affect the teeth and can be easily prevented if scrupulous cleanliness is observed in regard to the mouth and the teeth. Such grave organic diseases as arthritis, endocarditis and also many other destructive ailments of the special organs, most often the eye, have their origin in the unhealthy state of the mouth and the teeth. It is also believed that even the rise and fall in the blood pressure, the serious disturbances of the blood, heart, kidneys, intestines and the joints are frequently due to mouth infections. Further, Dr Stockton complains that 'The importance of the teeth in digestion is not sufficiently recognized. Many cases of chronic indigestion arise from imperfect mastication due to faulty dentition'¹

It may be observed that the dentists may repair the teeth mechanically, but they certainly cannot cure the weak constitution to which the decay is due. In this respect, the yoga method of *dantadhouti* or the purification of the teeth will, however, be found more useful than the modern dental hygiene. The whole yoga process resolves itself into a few simple principles, viz., the thorough dislodgement of foreign matter, general cleansing to be followed at least twice a day (both in the morning and at night before retiring) with

¹ Cf. *Hygiene of the Digestive Apparatus* by C. G. Stockton, M. D., p. 20.

The Teeth and Mouth

the use of (a) an improvised tooth-brush, (b) some form of a tooth-powder, and (c) a mouth-wash. The modern dental hygiene recognizes these facts as important, but, when compared to the vogue methods, it has to be proved whether the modern means applied are sufficiently effective.

(a) *The Tooth Brush* "There are eminent authorities who condemn the tooth-brush, first, because the bristles tear the gums and drive the particles of decomposing food into the narrow spaces between the teeth. Second, the tooth-brush itself, after being used a few times, becomes thoroughly infected and there seems to be no very simple and efficient method of disinfecting it¹." Dr. Head, Prof. Miller, Prof. Hutchinson and many other dental authorities and research workers, after careful investigations and laboratory tests, declare unanimously that the modern tooth-brush is not only a dangerous and filthy instrument, but that the use of such a foul brush is worse than not using the brush at all.

It has, therefore, been lately realized by Egbert, Kellogg, Macfadden, Bilz and others that the best hygienic appliance, for the proper cleansing of the teeth, is an orange-wood polishing stick or a stalk of celery which must be used only once and then thrown away.

¹ See *The Health Question Box* by J. H. Kellogg M.D. p. 170

The Teeth, Mouth, Tongue, Ear and Sinuses

The latest revelation in dental hygiene, however, is the Hygos method recommending the use of (i) a paper prepared from wood pulp and (ii) a polishing stick of orange wood. It is hailed by the dental enthusiasts as the *New Dental Hygiene*.

Evidently all these improvements only lead us back to the so called old fashioned and out of date practices of the yoga hygiene. The yogins recommend the use of fresh babul twigs the delicate shoots of a banyan tree or the branchlet of a nim tree (most of these having strong alkali properties in place of a modern prophylactic tooth brush. This is improvised by chewing one end of the fresh wood polishing stick (*datana*) till it gives off fine soft bristle. This again supplies the general need of exercising the teeth and vigorous and hard chewing becomes a necessity. This teeth gymnastics continue for a period of five minutes or more depending upon the kind of wood selected and upon the strength of the teeth of an individual. After each use, such a dental wood brush is thrown away and thus there is no further fear of any bacterial action or infection. It should be noted that the sticks used are not dry but broken off fresh and green from the trees just before dental cleansing¹.

(b) *The Dentifrice* Of equal importance is the proper selection of a dentifrice. The large manufactures

¹ These sticks generally measure from six to seven inches in length and a quarter of an inch in diameter.

The Teeth and Mouth

of this stuff available in the bazaar have counter claims from their rivals and the ordinary buyer is certainly puzzled for he is unable to determine which is relatively more useful. The properties necessary however for a good tooth powder is that it should be sufficiently coarse to produce the necessary polishing and grinding effect. It must also be detergent to wash the teeth besides being sufficiently germ killing to destroy all the bacteria that it meets. A powder that is too soft or too fine is of little avail for it is unable to remove the formation of film over the teeth. The last word we hear on this subject is from Dr. Kellogg who suggests that wood fibre is the one most suitable substance for this purpose. It goes without saying that such a substance or any form of wood pulp is not used in the dentifrices generally sold in the market. The yogins prepare their own tooth powder by a varied proportion of the catechu myrabolans turmeric or alum powders (properly mixed and finely pulverized). Sometimes coconut or almond shells are burnt and then coal after being powdered is mixed with the above preparation. A little of this mixture is placed on the soft end of the brush and rubbed well against the teeth till all the impurities (on both sides of the teeth) have been sufficiently removed.

(c) *The Mouth wash* The freshly secreted saliva formed from healthy blood is now considered to be the best of all mouth antiseptics. An antiseptic mouth

The Teeth, Mouth, Tongue, Ear and Smuses

wash, therefore, so largely recommended is really not such a great necessity as commonly believed (in healthy individuals), first, because the saliva in the mouth contains a starch digestant (designed to digest starch deposits on the teeth which deposits may otherwise ferment and form acids), and secondly, because the saliva is also alkaline (to neutralize mouth acids, the cause of tooth decay) The yogins use only pure water for gargling the mouth and the throat three to four times, usually followed after the scraping of the tongue¹.

The Tongue

§ 2 “It is not generally known that tartar and decomposing material tend to collect on the root of the tongue and are more often responsible for foul breath than stomach conditions ² Most persons do not know that the base of the tongue is often the place from where bad breath arises Dr Ingals of Chicago remarks that,

¹ Commenting upon the Teeth of the Hindus (a large majority of whom practically follow the process of yoga dantadhouti) Dr Egbert in an interesting article in the *British Journal of Dental Science* observes that he examined over thousands of people and had never found a single case of dental caries or malformation He attributes this remarkable immunity to the use of primitive but efficient brush improvised in the form of a fresh wood polishing stick (as above described)

² Cf *How to Live* (fifteenth edition) by Drs Fisher and Fisk p 100

The Tongue

"The back of the tongue is often covered with masses of thickened, decomposing epithelium, which may extend forward to the tip and cause visible '*coating of the tongue*'"¹. A large number of other disorders are also traceable to the unhealthy condition of the tongue and it is just as imperative to scrape the tongue well as to cleanse the teeth and mouth.

The yoga practice of *jihāmūlasodhanam* or the purification of the root of the tongue consists in reaching the back of the tongue, as far as one can reach, and thus removing whatever mucus and phlegm deposits may have accumulated there.

The practice of cleansing the tongue and the root of the tongue with an ordinary tooth-brush, a practice very rarely observed by few but so strongly recommended by the modern physicians is really not so safe for the hard bristles if thrust too far by oversight may lead to an



FIG 1

Cleansing the root of the tongue showing the position of fingers and the manner in which they are used

¹ See *Local and Respiratory Apparatus* by E. F. Ingals. M. D. p. 14

The Teeth, Mouth, Tongue, Ear and Smuses

injury of the oropharynx, or cause extreme gagging or sometimes may even hit the roof of the mouth. In this respect the yoga method is more complete, simple and effective comparatively. It is practised thus

Join together the three fingers known as the index the middle and the ring finger put them into the throat and rub well till the root of the tongue is cleansed. For guidance, see illustration No. 1. While washing thus, efforts should also be made simultaneously to throw out the phlegm (*lafa*) and mucus that may have surrounded the cavity. After a minute or two of this washing, rub the tongue with butter (so that the scraping which is to follow may not lead to irritation of the surface) very sparingly. Then hold the tongue scrapers on and below the tongue pulling the same slowly downwards¹

The Ear

§ 3 To all appearances the hygiene of the ear is unnecessary mainly because Nature has sufficiently provided for the removal of the ear-wax etc periodically, and thus no special attention is drawn to this

¹ That the practical yogins should have realized the importance and necessity of not only cleansing the surface but even the base and lower portion of the tongue most carefully every day when even the casual cleansing of the tongue was not so popular is really remarkable. Cf *Gherandasamhita* I 29 30 ff

The Ear

organ It must, however, be observed that the unhygienic condition of the ear has a remote bearing upon the general health and further is equally responsible for certain disorders e g vertigo which is often due to pressure of wax upon the ear drum

The care of the external ear consists in some sort of a rotary rub in front of the ear (to allow the wax or dust to loosen and fall out) turned downwards and a good wash at the time of taking a bath The parts which need special attention are the auditory canal and the middle ear Wax generally does not collect in a healthy ear, but it is just as essential to see that the ear-canal is kept clean Local earache, slight itching and irritation of the canal could not only be easily avoided but even cured by a little more attention to this organ The casual use of ear drops to soften the wax should be avoided for it really tends to swell the mass and thus increases pressure without any compensating advantage Cleansing is considered by Dr Randall, a specialist in diseases of the ear, as the first and sometimes the only requisite in abating or curing ear conditions and which, therefore, should be faithfully carried out Careful and vigorous syringing with hot water (105° to 115°F) is generally recommended by physicians for removing the wax

On the general belief that the ear does not need any care, the cleansing of this organ has been excluded from the morning toilet and nothing has been done in way

The Teeth, Mouth, Tongue, Ear and Sinuses

of emphasizing this need or educating the public on this subject by the modern writers on hygiene. The yogins, however, who are quite particular about the care of every part of the body include the cleansing of this organ (most necessarily the ear canal for the middle ear is reached only through the process of *neti*) in their morning hygienic duties.

The purification of the two holes of the ears known as *lagna* or *lagnarandhra dhouti* consists of irrigating the orifices at certain intervals (once a week), and of washing the external parts with pure water every day, no better solvent than pure hot water is obtainable. The index finger is generally pushed in slowly and moved with slight pressure against the walls to ensure removal of cerumen or ear wax, dry dead cells and dust that may have collected there during the day.

The Frontal Air Sinuses

§ 4. Nothing or very little is known of the importance of keeping the frontal air sinuses clean. These are two bony air chambers at the base of the nasal canal which connect with the corresponding nasal cavities by means of a passage called the frontonasal duct. Such morbid affections as the polypi or suppuration of the air chambers about the nose, following an ordinary nasal catarrh, arise mostly from the unhealthy condition of the air sinuses. This, of course, can be easily avoided by making these air chambers germless by casual wash

The Frontal Air-Sinuses

ing (through the suction process of *neti* or *kapālabhāti*) and hardened by vigorous exercise and oxidation of these cavities usually to be followed by an external frontal massage.

Kapālabhāti or the internal cleansing of the forehead is the exercise most suitable for the purification of the frontal air-sinuses¹. (Stand erect with the hands passively hanging on the sides or sit comfortably on a chair with the chest thrown forward—whichever is found more convenient.)² Begin throwing out all the breath from the lungs, and, when you feel that they are completely empty, start taking in the breath in a rapid succession. Then, without retaining the same in the lungs (the object being to allow the air to reach only up to the frontal air-cavities so as to offer an opportunity of a thorough air-bath), exhale quickly. It

. ¹ Cf. *Haṭhayogapradīpikā* II, 35 According to *Gheranda saṃhitā* (I, 55) and *Haṭhayogasaṃhitā* (I, 45) there are three kinds of *kapālabhāti* and the process herein elaborated is called *vātakrama kapālabhāti* or the method of cleansing the air sinuses through oxidation. It differs in the technique, and while the ordinary *kapālabhāti* is performed without any regard to the nostrils the later authorities insist that the breath be taken in through one nostril and expelled through the other. This is repeated alternately.

² The practical yogins, of course, prefer the squatting position which is generally assumed during all such cleansing processes. There is, however, no mention in the texts of any particular posture being essential.

The Teeth, Mouth, Tongue, Ear and Sinuses

should be remembered that no unusual strain ought to be exercised upon the respiratory process and jerks or forceful exhalation and inhalation should be avoided. Now inhale and exhale alternately without allowing the breath to be confined in the lungs. Thus, as soon as the inhalation is complete it should be immediately followed by a rapid exhalation. Both these movements must be deep and rhythmic. Simulate the deep and rapid breathing that one experiences during running—exhaling the breath again and filling it again and again quickly with the same ease and rapidity as a pair of bellows of a blacksmith. Whenever fatigue or shortness of breath is experienced, rest for a few seconds take in a complete deep breath and continue again. The whole process however, need not take more than three to five minutes. Those unaccustomed to deep or long breathing may find in the beginning, a tendency to dizziness or shortness of breath which soon disappears, after a few days of practice.

Apart from the internal purification of the frontal air sinuses through (i) the oxidation method of *vatakrima kapalabhati* and (ii) the nasal cleansing as suggested under the *Care of the Nose* (Ch. IV) strong rubbing and massaging of the depression in the forehead near the bridge of the nose with the thumb of the right hand is also suggested, as being extremely useful (as means to an external aid). This process which is called *lapata andhradhouti* is supposed to aid in curing

certain diseases arising from the derangements of the phlegmatic humours¹.

Case No. 438

§ 5. Mr. T. J. P. of Fulton Street, New York City, suffered from bad breath for a number of years. In course of time, he developed suppuration of the sinuses and the noxious discharge was quite annoying. Local medical treatment did not satisfactorily relieve him of this ailment, and a minor operation was suggested as the only alternative which the patient did not desire to undergo. In the meantime, however, he subjected himself to the yoga treatment and, apart from the usual care in diet, exercise, sun-bath, etc., he was specifically treated by the processes above suggested. Surprising as it may seem, the patient responded very favourably and when discharged, after eight weeks of his stay in the Institute, he was found to be completely relieved of his trouble.

Even though forming a part of the daily hygienic duties, the cleansing of the back and root of the tongue and irrigation and massage of the nasal cavities, especially near the frontal air-sinuses, are in themselves the best means of avoiding and curing bad breath and the cultivation of pus bacteria in the frontal sinuses².

¹ See *Gherandasamhitā*, I, 27 ff, *Hathayogasamhitā*, I, 16 ff

² Also compare opinion of Dr. E F Ingals in *Hygiene of the Vocal and Respiratory Apparatus*, p 107

The Teeth, Mouth, Tongue, Ear and Sinuses

The cleansing of the teeth, mouth, tongue, ear and the air-sinuses is regarded as one process called the fivefold dantadhouti. The total time taken up by these duties is really very insignificant (if an objection be raised that these practices involve much sacrifice of time from the nervous hurry of modern life), considering the physiological benefits derived therefrom.

The Hygienic Time Table (Section I)

§ 6. The following time table will, however, be found useful in adjusting the desired time one should spare for such purposes :

Organ	Yoga method	Frequency	Time
The Teeth and Mouth	<i>Dantadhouti</i>	morning & evening	7 minutes
The Tongue	<i>Jivhāmūlaśodhanam</i>	" "	3 "
The Ear (external)	<i>Karnadhouti</i>	" "	2 "
" (canal)	<i>Karnarandhra dhouti</i>	once a week	5 "
The Air-Sinuses	<i>Vātakrama kapāla bhāti</i>	morning & evening	3 "
" "	<i>Kapālarandhra dhouti</i>	" "	2 "

The Hygienic Time Table

This is the usual programme, and the time assigned to each practice is calculated approximately and represents the minimum figure. The same, of course, can be easily varied to suit an individual need.

CHAPTER IV

CARE OF THE NOSE

The process of nasal cleansing purifies the air sinuses invigorates the brain and influences the optic nerves and thus improves sight

Hathayogapradīpikā II 30

SUFFICIENT attention has not yet been directed to the hygiene of the nose which is wrongly supposed to be the least important organ by physiological text books, while, on the contrary, it is the main external organ which keeps active even to the last moment of our earthly existence. Nasal toilet has, therefore, not become so common as the cleansing of the teeth and mouth.

Importance of Nasal Cleansing

§1 That many of the diseases like diphtheria, rheumatism, measles, tuberculosis, scarlet fever, influenza, etc. can be easily prevented by taking good care of the nose (of course, including the general hygiene of the other organs) is now admitted¹. Further, the ordinary nasal affections such as polyps, adenoid growth, deformities of the septum and the most common of all

¹ See Dr. Pyle's *Manual of Personal Hygiene*, p. 107

Importance of Nasal Cleansing

troubles—the recurring nasal catarrh are also all mostly preventable and could be easily avoided by a little care to this organ. From the medical and hygienic point of view, therefore, the importance of nasal cleansing cannot be overestimated. ‘The deaf mute and the insane even with loss of taste still live while the nasal organ is active and in fact cleansing the nostrils is *the* cure for the insane and will diminish insanity ninety per cent. yet physiological text books teach that it is the least important organ.’¹

Ordinarily, whatever dust is inhaled lodges on the mucous surface of the nasal canal and is pushed towards the outer orifice by the minute cilia which are in constant outward motion. Any microbes entering the nose are likewise expelled and in addition to this mechanical expulsion, the nasal mucus which by nature is germicidal destroys a large number of bacteria. But with the amount of dust we inhale and the adulterated food and poisonous drinks we are daily swallowing clogging all throughout the physical mechanism is unavoidable. The nasal passage accordingly suffers from dust accumulation and stuffing. Handkerchiefs cannot remove all the dust and mucus accumulated especially when one sleeps on one side and the refuse begins to encrust. The slightest variation in the usual amount of air inhaled as a result of morbid accumulation

¹ Cf. *Prolongation of Life* by Dr. E. Mayer p. 16

Care of the Nose

in the nasal canal impairs the natural breathing process which always produces deleterious effects upon the circulation of blood and causes obstruction in the circulatory digestive and other functions of the body. In treating the system at this stage we have first to remove the cause where the clogging originated. The field of operation therefore is the nostrils first and then the cleansing of the other organs.

Closure of one nostril now becoming so common among the adults brings premature old age by constant rarefaction of the air and thus by suction overfills the blood vessels. This condition could most certainly be easily avoided by timely care of the nasal organs.

Various Methods of Nasal Cleansing

§ 2 The foregoing remarks show undoubtedly how indispensable is a healthy nose to our physical well being. The cleansing of the nostrils has therefore been considered most essential by the yōgis. To keep this organ in a healthy state, however, the one condition which is absolutely necessary is that the nostrils must be open for the passage of air. The method suggested by yoga hygiene is very simple and is known as the process of *neti* or nasal cleansing. To meet all kinds of cases it is further subdivided into three distinct modes (1) the ordinary nasal douche or *jalaneti*, (2) the threading of the air passages or *samanyaneti*, and (3)

Jalaneti

the dilatation, friction and rubbing of the nostrils or *gharsayaneti*¹.

Jalaneti

§ 3. The method of nasal cleansing known as *jalaneti* differs greatly in mode of operation. Thus the ordinary yoga nasal douche is really threefold: (a) *vyutkrama* (*kapālabhāti*) or the usual nasal irrigation where the water is taken through the two nostrils and expelled through the mouth; (b) *śītkrama* (*kapālabhāti*) or the reverse process of sucking the water through the mouth and throwing it out through both the nostrils; and (c) *siddha* (*jalaneti*) which is usually performed by the master yogins and consists in sniffing the water through only one nostril at a time and, without allowing it to pass on to the mouth, expelling the same through the other nostril². This when reversed and practised alternately through the other nostril forms one complete process.

(a) *Water Sniffing* The ordinary *jalaneti* of the *vyutkrama* type is non-injurious, non-irritating and absolutely simple. So the same could be easily recom-

¹ See *Yogaśāstrabha*, p 243 The *Yogaśāstradruma* (p 245) also mentions another method termed *yugalaneti* which consists in cleansing the two nostrils, the nares, and the accessory sinuses all in a single process

² See *Hathayāmikara* (MS), p 19 The technique of this method will be discussed in the *Higher Practices of Yoga* Vol VII of this series

Care of the Nose

mended to an ordinary layman Just when you wash your teeth, both in the morning and in the evening, do not forget to cleanse your nose also with cold or tepid



FIG. 2

*Sniffing the water shows the position of the
erect palm containing the liquid*

water, as may be convenient to an individual Take a glass full of water and put in one half a tea spoonful of

Jalaneti

table-salt. Stir it up properly and pour some in your inverted palm and inhale the same (as in suction) through one nostril at a time (see Fig 2). It will either come out through the same nostril or the other, or more likely through the mouth. Repeat this sniffing process two to three times and practice it alternately through the other nostril. Then blow your nose of the watery discharge (taking care to close only one nostril at a time).

The intricate air-passages often become filled with secretions as previously observed, and these with dust and other deposits poison the whole system and permanently injure the tissues to which they cling. It is, therefore, not only logical but absolutely necessary that they be washed away. This process of *jalaneti* loosens the clogged up mucus and dirt that has accumulated and hardened in the air-passages and which works as nasal obstruction to the free movement of air and finally leads to a number of diseases¹.

It is remarkable that even the Life Assurance Companies have lately come to realize the importance

¹ We are assured that "Far more important are obstructions in the naso pharyngeal passages, especially adenoid growth and hypertrophied tonsils. These in themselves, favourable soil for the tubercle bacillus, by their interference with free respiration prevent the development of the lungs, contributing to frequently recurring colds and chronic catarrh." *Medical Diagnosis*, by Dr. C L Greene, p 128

Care of the Nose

and value of water sniffing, especially during epidemic such as influenza. They emphasize in the notices and pamphlets issued by them to their clients that nasal cleansing through the water sniffing process is the only best and effective preventive against the disease-danger.

This practise also stimulates the tiny nerves and the tender mucous membrane in the nostrils and the many folds and narrow passages of the nasal surface that warms the air as it passes over them. It further directly aids in supplying the necessary moisture to the extent of two-thirds saturation and maintains moist mucous membrane so useful in catching dust. By this, the filtration of the air, to be sure, is greatly improved and the breathing becomes easy, natural and health-giving; and the breath entering in abundance through the clean nasal passage cools the brain and invigorates the sympathetic nervous system. The claim of the yogins that through nasal cleansing vision is improved and the diseases arising out of nasal obstruction are cured is amply supported and generally acknowledged by research students of the modern medical science.

Dr. Lindlahr, an authority upon Natural Therapeutics, has placed water sniffing above all preventive methods in hygiene and has therefore included it in his daily regimen. He remarks that "Water sniffing is an excellent means for cleansing the nasal passages of all obstruction. It is the best treatment for catarrh and a splendid natural stimulant to the membranes and nerve

endings in the nasal passages Through the stimulation of these nerve endings it has a tonic effect upon the brain and the nervous system"¹.

An objection has been raised by certain authorities against the regular use of water sniffing on the ground that the mucous membrane of the nose is intolerant of watery solutions, and a chronic congested condition or even infection of air cavities in the skull can be brought about by the constant use of sprays and douches. This, of course, is possible only so long as the nasal cavities have not become cold-proof but, as soon as the membranes become hardened by constant practice, there is no further fear on this account. On the contrary, we are informed by a large number of other authorities that in order to avoid catching cold it is needful not only to make the body resistant to the influence of cold but also the nasal passages This could only be effectively done through cold baths and cold water sniffing. If in the beginning the water cannot be taken cold, it may be tempered.

While speaking of *jalaneti* of the *vyutkrama* type, it may be observed that, in treating the sick, *mechano-yoga* appliances that very nearly correspond to the original practice e. g. a nasal syphon, a nasal douche or a spray, a funnel and a tube etc. could be easily substituted with advantage.

¹ Cf. *Natural Therapeutics* Vol II, by Henry Landuhr, M D., p 18

Care of the Nose

(b) *Reverse Process of water Sniffing* The Sīkrama process of nasal cleansing is rather difficult to those who are not accustomed to the other *yoṁa* practices. It consists however in taking a mouthful of water and then closing the lips tightly (so as not to allow the water to flow out of the mouth) and having thus retained it in the mouth expelling the same through the nostrils. The best way is to take in a deep breath when the water is still in the mouth and with the effort of exhalation to push the same upwards by reverse action as is experienced during the process of sneezing. Or while holding the water in the mouth, touch the tender membrane in the nose with a light feather (previously washed) or a thin muslin (twisted up into a form of a thin pointed cord) and produce the necessary sneezing to allow the water to escape from the nostrils. This tickling of the signal surface as the nasal mucous membrane is called usually succeeds in producing the necessary reflex action and this reverse nasal irrigation in course of time becomes easy and voluntary. The special feature of this method is that its vigorous action expels successfully any object (in form of dust or waste and dried mucus) that may be still adhering to the cavities more completely than is possible through the usual method of water sniffing. Especially the stuff which has been previously loosened but which has not altogether left the nasal passage yet needs very strong action for its removal and the process

Allied Curative Processes

of śītkramā kapalābhatī is the only best means in this direction

Allied Curative Processes

§ 4 The other two main methods of nasal cleansing known as samanyaneti and gharasananeti as above defined (p 42 f) should be practised only under the personal guidance of a practical yogin as they involve complicated operation that cannot be satisfactorily followed by mere book reading or second hand instructions, and, moreover, are likely to affect some parts of the nasal passages disadvantageously if not carefully guided. This, however, should not in the least be taken to imply that these practices are in any sense dangerous or even less important. On the contrary, they represent the best and most complete thorough and scientific means of nasal cleansing hitherto investigated. Being difficult in operation, even indeed while they form the daily duties of a practical yogin, their technique has to be omitted here as they cannot be conveniently included in the usual hygienic duties of a layman¹

It may not be out of place here to record the recent investigation on this line by a French medical authority which only goes to confirm the true value and scientific

¹ Further their curative value far exceeds their usual hygienic importance and their elaboration has therefore been reserved for the succeeding volumes of this series awaiting publication—especially *Yogatherapy* Part I (Vol IX)

Care of the Nose

importance of the neti processes already known to the yogins thousands of years back. Thus, the dilatation of the nasal passages by passing from nostrils to the throat a succession of probes of gradually increasing dimensions as an effective cure for deafness, headaches, asthma and snoring etc. was hailed by the French Academy of Medicine as a marvellous research and its inventor Dr. Georges Gautier computes that about seventy per cent of the people in this world stand in need of this method¹.

It is interesting to observe that almost all cases of headache (both in their acute and chronic forms), hemicrania and other complaints resulting from nasal obstruction yield to the above treatment of yoga in a very short period. There are even a few cases on record where through the practice of neti normal sight has been restored and the enlargement of tonsils permanently cured.

The Hygienic Time Table (Section II)

§ 6 The following time table will show the usual

Organ	Yogi method	Frequency	Time
The Nose	<i>Vyathirama kapala diti</i>	morning and evening	5 minutes
	<i>Shirama</i>	only in the morning	6

¹ See Madras Mail 17th March 1928 p. 8

The Hygienic Time Table

time required for the performance of jalāneti and the frequency with which the same should be attended

The water sniffing should be done thrice at the most each time to obtain the best results, and the śitkrama reverse action should not be indulged in more than twice during the course of the day which should be usually in the morning

CHAPTER V

CARE OF THE EYE

The practice of *trataka* or gazing strengthens the optic nerves cures the diseases of the eye and removes laziness

Hat! jogaj r uli ka with *Jyotsna*, II 32

THE eye is a very susceptible and delicate organ and, moreover, is intimately connected with the whole of human economy. For example, if there is a deficient blood supply or nervous exhaustion if the secretions are abnormal in fact if there is any serious functional or organic change in the body, the eyes generally participate in the evil consequences. Thus a dark hue of the skin under the lids (the so called 'rings around the eyes') is quite indicative of a bad blood circulation or of changes in the composition of the blood itself. In the same way, puffiness or swelling of the lids, the popularly known "bags under the eyes", is most often an early symptom of an approaching disease of the heart or kidney.

Just as the eye suffers due to constitutional disorders the general health of the body is in like manner, impaired due to visual defects. We are told by eminent medical authorities that 'the reflex evils from the eye-

The Real Eye

strain are great and numerous and are often incorrectly ascribed to entirely different causes. Headaches, nausea, and dizziness are especially frequent results of eye-strain' ¹.

The Real Eye

§ 1. Bernarr Macfadden, the well-known physical culturist of America, maintains that the real eye is to be found in the optic nervous system and not in the eye-ball which is merely the terminus of the system subordinate to the vital organism behind it. He observes, in support of his argument, that "The mechanical rather than organic character of the eyeball is demonstrated by the fact that, if impaired, or if parts of it, even, are destroyed, the loss can be repaired by the aid or substitution of artificial contrivances of glass while, if the optic nerve is impaired, the only remedy possible is the restoration of its powers, and if it is destroyed, no substitute for it can be found".

The health of the eyes, therefore, depends largely upon the perfect nutrition, drainage and nerve supply. If these are lacking, there is really very little chance of receiving any physiological benefit from the mere exercise of ocular hygiene for the hygiene of the eye is principally constitutional. Pyle remarks that "Those

¹ See *How to Live* by Drs. Fisk and Fisher p. 111.

² Cf. *Encyclopedia of Physical Culture* by Bernarr Macfadden p. 2911.

Care of the Eye

measures and modes of life which are conducive to general health and vigour will be beneficial in maintaining ocular health and vitality. Persons who seek to preserve their vision all through life must not only observe, the laws of ocular hygiene, but also those of general physical and mental hygiene"¹.

Even though care of the eye must begin, in the first place, with constitutional regeneration, there are, no doubt, special methods suggested by the yogins specifically for improving the eyes and maintaining normal vision. The modern hygiene of the eye consists mainly in thorough washing, massage and exercising of this organ. Practical Yoga suggests the same thing.

Eye-Strain

§ 2. One of the organs so commonly misused or unnecessarily strained in modern life is the eye. This is largely due to the eye being constantly focussed at a short distance. The cure for all reflex evils arising out of such an eye-strain, therefore, is simple and consists in focussing the eye at a long distance e. g. the horizon². This should be practised for a few minutes, say about five to ten minutes, and repeated after an interval of every few hours. This relieves the strain and gives necessary rest to the strained muscles of the eye. The

¹ Cf. *A Manual of Personal Hygiene*, by Dr W. L. Pyle, p. 258

² Compare, *Conservation of Vision and Ocular Hygiene*, p. 21

The Sun and Moon Gazing

Yogins suggest that looking at the sun and the moon is far more useful in the development of the eye than mere looking at the horizon. Besides this the concentration and gazing on the stars is also considered very useful.

The Sun and Moon Gazing

§ 3 This is a favourite exercise of the Yogins for it not only imparts vigour to the eyes but also induces concentration without much effort. The sun gazing is called *suryadhyāna* and the moon gazing is called *candradhyana* and both are distinguished as *sthūla* or gross forms of concentration¹. Of these two the sun gazing, however, is considered more important and consists in looking at the sun (when not covered over by clouds) with the eyes wide open as long as possible or till the tears come into the eyes².

Evidently, this exercise as an eye tonic seems to have been based upon the most remarkable discovery that the rays of the sun have not only a beneficial, but also a curative effect upon the eyes. The best time for doing this exercise is the morning and the evening—especially the time of sunrise and sunset. Without fear of any possible harm, any one can experiment with sun gazing in the early morning or late evening. No

¹ The author of *Yogakalpaśūtra* (p. 316) classifies them as *pralambādhyaṇa* a term generally belonging to the Jaina Yoga (See *Yogakalpaśūtra* by Hemacandra VII. 8).

² Cf. *Yogakalpaśūtra* p. 201.

Care of the Eye

attempt to outstare the noon day sun be made as the glare causes irritation and such a practice may thus do more harm than good. It is, therefore necessary to caution all, in the most emphatic terms those who are apt to indulge in gazing at the noon day sun that this should not be attempted¹. Again, gazing at the sun should be practised gradually i.e. only one or two minutes in the beginning to ten minutes at the most. Of course, by practice, one can gaze at the sun even for half an hour or more, but five to ten minutes practice is generally sufficient for hygienic purposes. The yogins claim that if practised faithfully, this sun gazing leads to considerable improvement in sight when even the smallest particle becomes clearly visible. Its curative effects are also very far reaching and deserve attention. It is lately reported in the *Hindu* (Madras, January 17th, 1927) that, by means of this

¹ Many risky attempts at the hands of irresponsible students who have been already cautioned against the use of certain yoga practices but who in turn with their scanty knowledge from books undertook those difficult and prohibited exercises resulting in physical and mental injuries to themselves have brought practical Yoga into discredit especially among the modern scientists and research students. The public of course have also been scared and that even to such an extent that the most simple yoga practices are also considered dangerous. This emphasis therefore is really not without foundation and it is hoped that the precautions appearing in this work will be strictly followed out.

Eye Gymnastics

simple exercise aided by eye bath and massage, the Chief of Aundh was able to dispense with spectacles. His doctor finds that his eyes are now absolutely sound though the Chief himself is past sixty.

The moon and star gazing is simple and can be practised when the nights are clear, taking care to see that the body is protected against cold or local chill during the night.

Eye Gymnastics

§4 The ordinary use of the eye generally tends to exercise the eye muscles unequally. As a result of this certain sets of muscles are overworked or strained at the cost of certain other muscles which become weakened and suffer through lack of proper exercise. This has to be corrected by regular and systematic practice of eye exercises, providing for harmonious development of the eye muscles.

Trata or the process for the purification of the eyes consists in gazing at a particular object either far or near, more preferably a minute one, without the least twinkle, with the eyes wide open till the tears begin to flow¹. Even though not detailed in the practical yoga texts it is given to understand by way of personal instructions (imparted by the practical teacher, while in the yoga training) that the beginner should use either a light produced from clarified butter or, if that is not

¹ See *Āṣṭāṅga-sāstra* III 26

Care of the Eye

available, a simple candle light without any glass on. The distance between the object and the eyes should be so adjusted as to suit an individual need even though usually it is about sixteen to twenty inches. The eyes



FIG. 2.

Sidhasana in an equilateral triangle to show the symmetry of pose and posture

should be fixed on the tip of the flame, while the body is kept erect in a sitting position. The posture usually

Eye Gymnastics

The Eyebrow Gaze: Now, after one minute of known as *stix* the eyes between the eyebrows. Keep it up After a period of two minutes or so, and then close the can use for rest. This may be termed *bhrūmadhya trātaka* in (for) gazing on the space between the eyebrows. See having 3. 6.

(c) *The Right Shoulder Gaze:* Then, in the like manner, keeping the body erect, the neck straight and the head steady, fix the eyes on the end of your right shoulder. Continue this for two minutes and then close the eyes. This may be termed *dakṣiṇa jātṛu trātaka* or gazing on the end of the right collar bone.



FIG. 1
*Fixing the eyes on the tip of the nose
(for nasal gaze).*

other, for even while the above practices form a part of certain other exercises, no particular name has been given to these particular modes of gazing, by the Sanskrit authorities. For example, the nasal gaze appears in *Bhāṣaradgitā* VI, 13.

Care of the Eye

useful as vigorous eye gymnastics. Further, glasses should be worn, if necessary, and higher practices like *sambhavi mudrā* should be taken from the older authorities and elaborated, though the Hathayoga treatises, represent the most scientific system of training the eyes. For strengthening, however, the following four exercises will suffice in the need of ocular hygiene.

(a) *The Nasal Gaze* Assume a comfortable relaxed position, and fix the eyes on the tip of your nose. Continue

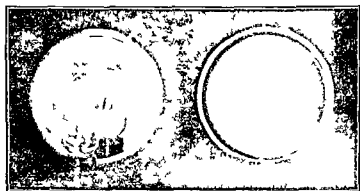


FIG. 4

Technique of using light reflection for gaze

to gaze for two or three minutes, and then close the eyes. This may be called *nasal āgrā trataka* or gazing on the tip of the nose¹. See Fig 5

¹ These names are assigned by the author himself for the sole purpose of distinguishing one mode of gazing from the

Eye Gymnastics

recommended. *The Eyebrow Gaze:* Now, after one minute of known as *stix* the eyes between the eyebrows. Keep it up for a period of two minutes or so, and then close the eyes for rest. This may be termed *bhrūmadhya trātaka* or gazing on the space between the eyebrows. See having 5. 6.

(c) *The Right Shoulder Gaze* Then, in the like manner, keeping the body erect, the neck straight and the head steady, fix the eyes on the end of your right shoulder. Continue this for two minutes and then close the eyes. This may be termed *dakṣiṇa jātṛa trātaka* or gazing on the end of the right collar bone.



FIG 3

*Fixing the eyes on the tip of the nose
(for nasal gaze).*

other, for even while the above practices form a part of certain other exercises, no particular name has been given to these particular modes of gazing by the Sanskrit authorities. For example, the nasal gaze appears in *Bhāṣajalī* VI. 11

Care of the Eye

(d) *The Left Shoulder Gaze* Finally maintaining the previous position of the body fix the eyes on the end of your left shoulder. Keep it up for a further period of two minutes and again close the eyes for further rest. This may be termed *vamajatru trataka* or gazing on the end of the left collar bone.

The special value of the eye gymnastics lie in exercising and strengthening of those muscles which control the movements of the eyeballs—especially the four sets of muscles which pull the eyeballs upward downward to the right and to the left. The exercises herein above given therefore equalize the strength of the four sets of muscles which generally control the movements of the eyeball.

Massage

§ 5 The stroking, vibrating and kneading movements have a decided benevolent influence upon the blood circulation and nerve currents and these movements could be effectively worked upon the eyeballs. The yogins however have no special suggestions to offer on this line but the same could be easily incorporated in the daily course from other popular works on this subject by the naturopaths.

Eye Bath

§ 6 The use of cold water in bathing the eye is considered essential to give that organ the necessary

The Hygienic Time Table

tone and stimulation. A few minutes after the trātaka exercises, it is beneficial to either dip the eyes in cold water for three or four times, or to splash the water (by taking the water in the hollow of the hands, and then throwing the same) in the open eyes for four to five times. This dashing of the water on the open eyes has the same physiological effects upon the circulation of the blood, lymph and nerve currents as the vibratory massage



FIG. 6.

Fixing the eyes on the space between the eyebrows (for frontal gaze).

so widely recommended by the modern physical culturists. It reflexly stirs up the pathogenic deposits in the tissues and squeezes them, as it were, into the lymphatic and venous circulation, thus offering greater opportunity for a free inflow of pure blood.

The Hygienic Time Table (Section III)

§ 7. The following time table shows approximately, of course, taking into account the average requirements.

Care of the Eye

the usual course one should follow to keep his eyes in good shape

Organ	Yoga method	Frequency	Time
The Eye	<i>Trataka</i> (with water)	only in evening	5 minutes
	(with light)		5
	<i>Niskūja trataka</i>	morning only	2
	<i>Bhramadhya</i>		2
	<i>Dakṣa jatra</i> „		2
	<i>Tama jatra</i> „		2
	<i>Candradhyana</i>	once in a week	10
	<i>Suryadhyana</i>		10

For ordinary purposes, the sun and moon gazing need not be included in the daily regimen, and further should be carefully adjusted to suit individual constitution and need. If the time given above is beyond one's capacity, in respect of all the practices, the same could be proportionately reduced.

CHAPTER VI

CARE OF THE DIGESTIVE ORGANS (Stomach)

He who practises the stomach wash gains
health strength and cheerfulness

Cleandasaṅgata I 41

COMPARATIVELY very few persons are aware that the food which enters by the mouth and leaves by the anus has to travel a distance of about ten yards through a muscular tube called the alimentary canal. This journey however is not so easy as one supposes, for the canal is not like the ordinary water pipe or even a rubber hose but is absolutely muscular and thus tightly grasps the objects passing through it before they are pushed forward by rhythmic muscular movements.

Four Apartments

§1 The food tube may be considered as divided into four apartments in each of which the food is retained for a time to undergo certain bio-chemical changes which are not only essential to the digestive process but are *positively* necessary to prepare the way for the next succeeding series of changes that the food must undergo before it is absorbed.

Care of the Eye

the usual course one should follow to keep his eyes in good shape

Organ	Yoga method	Frequency	Time
The Eye	<i>Trutika</i> (with water)	only in evening	5 minutes
	(with light)		5 "
	<i>Nakūjra trataka</i>	morning only	2
	<i>Bhramadhya</i>		2
	<i>Dakṣa jatra</i>		2
	<i>Tama jatra</i>		2
	<i>Candradhyana</i>	once in a week	10
	<i>Surjadyana</i>		10

For ordinary purposes, the sun and moon gazing need not be included in the daily regimen, and further should be carefully adjusted to suit individual constitution and need. If the time given above is beyond one's capacity, in respect of all the practices, the same could be proportionately reduced.

CHAPTER VI

CARE OF THE DIGESTIVE ORGANS (Stomach)

He who practises the stomach wash gains
health strength and cheerfulness

Glee intestinalis I 41

COMPARATIVELY, very few persons are aware that the food which enters by the mouth and leaves by the anus has to travel a distance of about ten yards through a muscular tube called the alimentary canal. This journey, however, is not so easy, as one supposes for the canal is not like the ordinary water pipe or even a rubber hose but is absolutely muscular and thus tightly grasps the objects passing through it before they are pushed forward by automatic muscular movements.

Four Apartments

§1 The food tube may be considered as divided into four apartments in each of which the food is retained for a time to undergo certain biochemical changes which are not only essential to the digestive process, but are *positively* necessary to prepare the way for the next succeeding series of changes that the food must undergo before it is absorbed.

Care of the Eye

the usual course one should follow to keep his eyes in good shape.

Organ	Yoga method	Frequency	Time
The Eye	<i>Tratila</i> (with water)	only in evening	5 minutes
	(with light)		5
	<i>Anukajra</i> <i>tratika</i>	morning only	2
	<i>Bhramadhya</i>		2
	<i>Dakṣinajatu</i>		2
	<i>Vamajatu</i>		2
	<i>Candradhyana</i>	once in a week	10
	<i>Suryadhya</i>		10

For ordinary purposes, the sun and moon gazing need not be included in the daily regimen, and further should be carefully adjusted to suit individual constitution and need. If the time given above is beyond one's capacity, in respect of all the practices, the same could be proportionately reduced.

CHAPTER VI

CARE OF THE DIGESTIVE ORGANS (Stomach)

He who practises the stomach with guns
health strength and cheerfulness.

Gherudasana I 41

COMPARATIVELY, very few persons are aware that the food which enters by the mouth and leaves by the anus has to travel a distance of about ten yards through a muscular tube called the alimentary canal. This journey, however, is not so easy, as one supposes, for the canal is not like the ordinary water pipe or even a rubber hose but is absolutely muscular and thus tightly grasps the objects passing through it before they are pushed forward by automatic muscular movements.

Four Apartments

§1 The food tube may be considered as divided into four apartments in each of which the food is retained for a time to undergo certain biochemical changes which are not only essential to the digestive process, but are *positively* necessary to prepare the way for the next succeeding series of changes that the food must undergo before it is absorbed.

Care of the Digestive Organs (Stomach)

In the first apartment i. e. the mouth, the food is reduced to a soft pulp and is further mixed with the saliva.

In the second apartment i. e. the stomach the food passed by the mouth is mixed with the gastric juice reducing the contents to a semi fluid state.

In the third apartment i. e. the small intestines, the semi fluid food passed by the stomach is really digested and absorbed.

In the fourth apartment i. e. the colon or the large intestines the waste matters pushed forward and emptied by the small intestines are received and dismissed from the body.

During transit through this alimentary canal, each morsel of food taken (either in form of solid or liquid material) is temporarily checked while some special work, as of digestion, absorption or selection is being accomplished. These pauses are secured by means of what may be termed 'gates'. Kellogg in describing these ten gates, shows the various advantages and important functions performed by each one of them. He remarks that Many of the most serious disorders of digestion recent physiological research has shown, are the result of disturbances which occur at the food gates, so that it is a matter of very great practical interest to discover the relation of these gates to healthy digestion, and to associate the various disturbances which

The Five Food Laboratories

occur in conditions of disease each with its particular gate' ¹.

The Five Food Laboratories

§2 Out of the twenty one digestive organs of a man, the most important are the five great food laboratories, viz., (a) the mouth or the mill, (b) the stomach or the mixing plant, (c) the liver or the refinery (d) the small intestines or the absorbing chamber, and (e) the large intestines called the colon or the waste storage and disposal system

(a) *The mouth or the mill* The hygiene of the mouth has been previously treated and needs no further emphasis or repetition. The work of the mill, as may be expected, is thorough mastication for the very simple reason that the digestion is made easy, besides an indirect control over the intake of food, especially as to the quantity. It is well to remember further that the only portion of the operation of digestion that can be voluntarily controlled is that which is done in the mouth. On the activities of this mill, depends largely the health of the alimentary canal. Thus, if the food is not properly masticated or mixed with the necessary quantity of saliva, the work of the other digestive organs suffers²

¹ Cf. for further elaboration *The Itinerary of a Breakfast* by Dr H J Kello, p 31

² Great stress has been laid upon the subject of thorough mastication and the benefits derived therefrom are claimed to be innumerable by Mr Horace Fletcher in his work *1 B Z of our own Nutrition*

Care of the Digestive Organs (Stomach)

(b) *The Stomach or the Mixing Plant* The action of the saliva still continues in the stomach which secretes a strongly acid fluid known as the gastric juice which practically breaks up and liquefies the food. The mixing plant, with the aid of the muscular action of the stomach viz the rhythmic and slow wave like contractions (at the rate of three to five waves per minute), thoroughly mingles the gastric juices with the softened food, and passes the semi fluid stuff to the small intestines, through the pylorus, for absorption.

Even though absorption from the stomach is of less importance than was formerly supposed, it is still essential that this organ be kept in a healthy state¹. First, "The nutritive value of the various foods, depends, it must be specially mentioned, *solely and only upon the digestive power of the stomach*, and the capability of the system to assimilate it is another thing than the percentage of nutritive material which the food may contain"². And second, "That the *quantity* of food

¹ Contrary to this opinion, Kellogg maintains that "The work performed by the stomach while important can be dispensed with. There are many persons living whose stomachs have been removed and who have good digestions and enjoy good health. See *The Itinerary of a Breakfast* p 28

It needs hardly to be pointed out that these short-cuts to health are not only unnatural expensive and sometimes dangerous but are also a great drain upon the whole of human economy.

² Cf *Neo-Naturopathy* by Louis Kuhne (Gr. Fl.) p 87

The Fine Food Laboratories

generally taken, is *more* than the wants of the system require, and that such excess, if persevered in, generally produces, not only functional aberration, but disease of the coats of the stomach"¹

(c) *The Liver or the Refinery* It is not generally realized that the semi fluid stuff passed on by the stomach has to be refined and decomposed before the same can be admitted in the absorbing chamber The liver, which from an anatomical point of view is simple in structure, is really the busiest laboratory where a great variety of work is undertaken Even though outside of the actual food tube, this refinery is directly connected to it In regard to the main work carried on by this organ, it is observed, though surprising, that "practically all of the food goes to this wonderful laboratory after absorption and before entering the general blood current"²

(d) *The Small Intestines or Absorbing Chamber* The work of transforming or absorbing all digestible food principles into blood, through the special absorbents of the intestines called the villi, is really done in this absorbing chamber This laboratory of about twenty two feet in length, therefore, does the main

¹ This axiom represents Dr Beaumont's Observations on Digestion in *The Health Question Box* p 885

² Cf *The Itinerary of a Breakfast* by J H Kellogg M D p 21

Care of the Digestive Organs (Stomach)

work of digestion and pushes forward the waste materials into the colon for final disposal

(c) *The Colon or the Waste Disposal System* The waste materials which have no further use are received in the colon and finally expelled through the anus

Unity of Cause in Disease

§ 3 Out of the five main organs of digestion is mentioned above however the most important and those that need daily care are the stomach and the intestines Kuhne Hazzard and others in advancing *the unity of cause in disease*, specifically rely on the data that the digestive organs are largely to be blamed for all kinds of human ills¹

¹ It must continually be borne in mind that the state of the digestive organs is the crux of the whole situation Therein lies health or illness p 184 (Cf below)

The body of their text is like this

The source of all symptoms of disease is *impure blood*
Impure blood is caused by *impaired digestion*

Impaired digestion results from

(a) Taking into the body food wrongly selected in kind or in quantity wrongly prepared or wrongly masticated

(b) Taking into the body food that may have been correctly selected prepared and eaten but in quantity greater than is needed for the repair and growth of tissue cells

See *Fasting for the Cure of Disease* by Dr L B Hazzard

Responsibilities of the Stomach

Carlson, Allen, Einhorn, Luckhardt and a few other believers in rational therapy bring this important issue to a simple conclusion that, through the restoration of a healthy stomach (by starvation or control of hunger) the general tone of the body could surely be improved and many specific diseases like diabetes etc. could be effectively eliminated.

Carington, Macfadden and other advocates of fasting as a cure of disease hold that the treatment of the stomach in itself is sufficient to cause radical changes and thus necessitate reaction in the other organs.

The above statements have been corroborated by a large number of demonstrations, and it is now generally accepted, as of old, that the treatment of the stomach viz. fasting etc. is essentially the main source of neutralizing certain pathological changes. Further, that systematic fasting (within the meaning of treatment of the stomach) can even bring about rejuvenation, in the real sense of the word, has been recently proved by remarkable experiments of Dr. Crew, at least in the case of a flat-worm called planarian.

Responsibilities of the Stomach

§4. Whatever the claims be, a healthy stomach is indeed a great asset to the physical well-being of an individual, and the purpose of this chapter, therefore, is mainly to show, from the practical yoga point of view,

Care of the Digestive Organs (Stomach)

the best means of keeping this organ clean and of maintaining it in its natural healthy state

As previously explained both the important digestive organs viz the stomach and the intestines are heavily lined with mucous membranes and delicate serous coat. Of these the office of the stomach besides the gastric secretion is to prepare the masticated food for its final digestion in the intestines. Just as cleansing of the teeth or the nose is a hygienic necessity, the cleansing of the stomach and the intestines is also imperative for keeping those organs in their healthy state.

Each time the food passes through the alimentary canal, it leaves, besides other mal formations, a fine coating of waste matter behind, when not thoroughly digested or eliminated from the system, which forms a sort of morbid lining throughout the entire canal. If this coating is not washed off at intervals, it interferes with the natural secretion and juices of the digestive organs from freely mixing with the food fermentations and thus prevents normal physiological functions. The most natural and common outcome of such morbid coating of the waste matters along the alimentary canal is indigestion, constipation, defective absorption and self poisoning (known as auto intoxication). These in turn tend to lowered vitality and lack of resistance power which are generally the main causes of all other diseases. We are told by Dr Jamison that Nine tenths

Responsibilities of the Stomach

of the ills that afflict mankind have their origin in a foul digestive apparatus and a consequently poisoned body"¹. He further observes that "Foodstuffs are prepared for assimilation in the alimentary laboratory through the process of normal fermentation. Is it not essential, therefore, that the connecting canals and receptacles be cleansed of the fermented debris that may remain unused and unexpelled, before more food be taken by the digestive apparatus? The all important question is —How soon and how well have the residuary part of the food (for some part will always be undigested or unassimilated), and the waste resulting from the worn out tissues of the various organs, been eliminated from the system?"² The egesta do not pass out in the form of normal faeces and something has to be done to remove the same before the waste is re absorbed by the system or adheres to the delicate mucous membranes of the canal. Apart from reactionary and injurious medications, the only methods known to modern science are the stomach tube and enema. Both these methods are defective for there is no voluntary cooperation or *conscious* response from those organs that are involved in the operation. Furthermore, the elimination and cleansing is also partial and mostly superfluous and has no deeper physiological value than mere temporary relief.

¹ Cf *Intestinal Ills* by A. B. Jamison M. D. p. 274

² Cf *Ibid* p. 13

Care of the Digestive Organs (Stomach)

To realize the importance and true significance of this subject, let it be observed once again that there is general agreement among all authorities on curative sciences (including those that advocate Nature Cure Physical Culture Etc) that disease always follows an abnormal condition of the alimentary canal. And even though considered less essential by medical authorities the cleansing of the stomach alike the colon, at regular intervals is an extremely essential hygienic observance.

The practical yogins realized this all important fundamental truth, the only best method to avoid disease, thousands of years before laboratory tests were possible and incorporated a large and varied number of practices to affect a thorough washing of the entire alimentary canal whose inner surface, from the stomach to the colon affect over 20 000,000 rootlets (called glands, lacteals, follicles, villi, etc) which take up intestinal juices as roots of a plant take sap from the soil. When these enormous responsibilities of the stomach and other accessory organs bearing on the general health of an individual are realized, it will become very easy for anyone to appreciate the yoga practices which aid thorough elimination of poisons, in the real sense of the word, from these organs.

Dhouti or Stomach wash

§ 5 The yoga method of cleansing the alimentary canal (most specifically the stomach, in this instance)

Dhouti or Stomach-wash

is known as *dhouti* or stomach wash. This again is subdivided into sixteen distinct lower and higher processes of a very complicated nature, each with a particular object in view¹. The process most easy of practice and which can be safely recommended to the beginner is

¹ These and other practices are so interwoven that it is difficult to classify them under particular heads. If taken in their traditional order (as by the Sanskrit authorities) they are sure to prove confusing to a modern student. I have therefore taken the liberty to put them under such classifications as are more appropriate to their physiological value. Needless to say that a large number of practices have been omitted here as the scope of this work is limited and further their technique is most difficult rather injurious if practised without the direct and personal guidance of a master *Yogi*. This does not mean that they do not possess high purificatory value. On the contrary the practices omitted here and elsewhere throughout this introductory work represent the most important technical scientific and extremely valuable modes of cleansing hitherto investigated by the modern curative sciences. For example the process known as *ratasira* (ur bath for the alimentary canal) consists in filling the stomach (in a prescribed manner) with air and expelling the same through the posterior passage. Nature periodically washes and cleanses this important passage but Yoga makes that washing and cleansing thorough and voluntary. However if the ordinary natural cleansing is incomplete (which is always the case) then the foetid matters putrefy in the stomach and intestines and generate noxious and deleterious gases which lead to diseases. But *ratasira* by passing a current of air through the canal causes the oxidation of the foetid products and thus conduces to health increases

Care of the Digestive Organs (Stomach)

the type of cleansing known as *vamanadhouti* variously termed as *kuñjala*, *gajakarnī* or *gajakarma* etc. by the older authorities

After having cleansed the teeth, the mouth, the nose, etc the washing of the stomach can be followed. Take about one to two pints of water (lukewarm previously boiled and strained through a fine gauze) and add from one to two heaping table spoonfuls of salt or soda bicarb. Stir the contents thoroughly till evenly mixed and

digestion and normal activities of digestive organs. Similarly *lāṅghāra* (irrigation of the alimentary canal or flushing) consists in taking large quantities of water for the purpose of flushing the entire canal, instead of air, (taken by the mouth moved in the stomach, pushed by *nauli* and other accessory processes through the small and large intestines and ultimately ejected through the rectum). Each of the above processes require approximately one and a half hour. The more complicated of the canal purification processes is the method of *bahiskṛtadhouti* (practised by the masters) consisting of partial removal of the large intestines from the body (to be sure, from the posterior passage), thoroughly cleaning them of all impurities and again drawing them back into the abdomen and gradually setting them in their proper position. Such practices (even though involving great risk) most certainly indicate the extent of physiological knowledge the yogins had regarding the care of their body and the best and most suitable methods of eliminating poisons from the most important organs thus deriving the utmost hygienic benefit by easy and gradual means of self treatment during health and disease. See *Gherandasamhitā*, I, 10, 11 ff; *Haṭhayogasamhitā*, pp 4, 5 ff.

Dhputi or Stomach wash

begin drinking the same. Keep on drinking till the stomach can contain it no more. Now try to retain the water in the stomach for sometime instead of throwing



FIG

*Squatt is position generally assumed during
the practice of yoga toilet*

Physiological Effects of a Stomach-wash

is known as *brahmadātana*—literally, the tooth-brush of the gods) and touch the end of your palate or the epiglottis (as in Fig 1) and thus slowly bring out the water (of course, this will come out mixed with a large quantity of what looks like mucus, really the unused, unnecessary and filthy surplus fermented juices and secretions of the stomach) After each ejection, an interval of at least twenty-five seconds should be given (with a view to avoid strain, exhaustion or confusion) and the process repeated patiently till all the contents of the stomach have been completely thrown out.

Physiological Effects of a Stomach-wash

§ 6. It stands to reason that more benefit is derived by this simple process of yoga stomach-wash than by the use of stomach-tube or the lavage system when it is realized that, during this process, the vigorous gushes of water flush the upper dome and neck of the stomach as also the œsophagus, completely by repeated attacks of flooding this area which remains untouched due to interference of rubber used in modern mechanical methods. Again, beneficent physiological effects of this *tamanadhouti* on general health are remarkable. Among other things as an aid to curing obesity it is the best means for it helps to eliminate poisons from the body and prevents further accumulation of foreign matters in the system. Moreover it reflexly acts on the

79

Care of the Digestive Organs (Stomach)

kidneys and the bowels very favourably and a great change is immediately noticeable in the urine and the stools passed thereafter

A Few Facts

§ 7 In the treatment of diseases, this process is applied uniformly to all patients (excepting those who are considered unfit to undergo the process due to some organic or functional disorders) and the results so far obtained are, whilst not exceeding expectations, have been in the main quite satisfactory¹ The following testimonies speak for themselves

582. Rev Dr. J. B. W., Director of the Strangers' Welfare Fellowship of the City of New York, writes on Oct. 4th 1920

Returning to my home in New York after a stay of three weeks in the Yoga Institute of which you are the honoured head I take especial pleasure in telling you how greatly I benefited by the exercises and treatment which I took while in the Institute

¹ Dr Thomas Oliver advising the medical practitioners free use of stomach wash as a general treatment in disease remarks

The excessive acidity of the contents of the stomach has first to be neutralized As the quantity of formed and unformed ferment in this viscus is too great to be readily influenced by antiseptics it becomes necessary to wash out the stomach perhaps on more than one occasion'

Cf *Auto-intoxication of Intestinal Origin* by Thomas Oliver F. R. C. P. M. D. p 127

A Few Facts

For fifteen years I had been a sufferer from constipation in its severest form but after the third day in the Institute I had a natural movement of the bowels with no recurrence of constipation since I find also that the exercises have improved the action of my heart and that the indigestion which has been greatly troubling me for several years is gradually passing away By continuing at home the deep breathing exercises which you taught me and by following the dietary suggestions which you gave me I am confident that in spite of my handicap of sixty eight years I shall recover my health and the sense of physical well being which were beginning to slip away from me

- 2 Mr H M D , M I M E (London) writes on 15th February 1919 that

I write to thank you for all you have done for me and to tell you how much I have benefited since you initiated me into your treatment

From the very first week I began to feel the steady advantage from the practice of Neti and Brhmadata the breathing exercises and the diet course From the daily notes that I have kept I find that my weight has been reduced from 174 lbs to 134 lbs without my feeling any weakness thereby In consequence I have also been reduced in my girth measurement from 44 inches to 37 inches and I do not feel any longer that heavy dull dyspeptic feeling and on the whole I feel quite alert and cheerful

Care of the Digestive Organs (Stomach)

456. Mr. C. S. of 120 Broadway, New York, who suffered from dilatation of the stomach and rarely followed the actual treatment except a casual stomach-wash and few postures, observes in his letter of the 20eth July 1920 that

When I first engaged in the following of the principles of your institute I confess that I harboured great doubts that they could accomplish the great benefits claimed by you the main reason being their simplicity both in execution and character. While as you know I did not strictly follow the rules, and kept on smoking and eating meats at all times, I still reduced within ten days twelve pounds of weight and $1\frac{1}{2}$ inches of waist line, and by following the exercises but for a few minutes daily, am steadily reducing to my normal weight and above all have acquired entire control over my digestive organs without the use of any preparation of laxative character.

Some Useful Suggestions

§ 8. Even though nothing has been mentioned in the original texts (the matter having been left to the discretion of the teacher), from my experience, I am able to suggest that this process of stomach-wash should be practised daily for two weeks successively (once a day i. e. the morning) and then on every alternate day for a period of one more month. It is necessary here to

Other Accessories

observe that, after a period of twenty to thirty days (depending upon the condition of the stomach), there will appear slightly brownish element (the discoloration chiefly being due to the tiny capillaries giving way after the morbid coatings from the walls of the stomach having been previously removed) in the contents vomitted from the stomach. If no undue strain is exerted at this stage, the condition soon disappears. It should be made clear that there need not be any anxiety on this account for the discoloration of the contents only go to prove that the walls of the stomach have been completely washed off, the morbid coatings have been removed, and the thin lining of the stomach has thus become clean and brought to its normal condition. This stage, however should be treated as a warning also in so far that no further attempts at vamanadhouti should be followed for some period, after this incident. Of course, casual washings after an interval of a week or a month may be undertaken when necessary to suit the condition of the stomach. The yogins practise this daily (as a part of physical purification) but that is no guidance for a layman who should resort to it only when he finds his stomach functionally indisposed.

Other Accessories

§ 9 Among the other practices which encourage activity of the stomach, are certain yoga postures and breathing methods. These, by their indirect influence

83

Care of the Digestive Organs (Stomach)

upon the sympathetic nerves and direct action upon the accessory muscles, increase the appetite, relieve the gas and generally contribute to a healthy condition of the stomach. *Paścimottānāsana*, *halāsana*, *cakrāsana*, and *kukkutāsana* are easy of practice and can be followed everyday for a few minutes¹. The *plāvinī* method of breathing is very useful for the oxygenation of the stomach-contents and may be repeated four to five times each day².

The Hygienic Time Table (Section IV)

§ 10. The following table may serve as a guide, in adjusting time to be allotted to the above practices and the rotation in which they should be followed :

Organ	Yogi method	Frequency	Time
The stomach	<i>Plāvinī</i> (breathing)	only in morning	5 minutes
,	<i>Paścimottānāsana</i>	morning & evening	3 ,
,	<i>Kukkutāsana</i>	, "	2 ,
	<i>Vamanadhouti</i>	morning only (for one month continuously, and thereafter every fifteen days)	10 ..

¹ For details of practice, see *Yoga Postures*, Vol V

² Cf *Yoga Breathing Methods*, Vol VI, awaiting publication

The Hygienic Time Table

The stomach-wash should be performed only on an empty stomach¹, in the morning, and care should be taken to lie down and rest completely for at least fifteen minutes after this practice, before resuming normal activities

¹ The words *bhojanante* in the texts mean just after the meal but it is not advisable in the case of a layman

CHAPTER VII

CARE OF THE DIGESTIVE ORGANS (Colon)

One who practises *basti* or enema never suffers from constipation or abdominal disorders. It further increases appetite and is a sure remedy for flatulence.

Gherandusamhita, I, 49

MAN is, in a way, constantly living under the chance of being poisoned, he is, through the activities of his own laboratory of poisons (the intestines), always working towards his own destruction.

Body tissues are continually undergoing change of structure. The conglomeration of cells that form such body tissues generally vary in size and structure every moment (relatively) for the very simple reason that the cells are constantly dying, are cast off, and fresh material is supplied. The waste produced in the body, by the wear and tear of the tissues and through their by-products, represent dead and harmful refuse which has to be eliminated immediately.

Apart from the nose, kidneys, skin and other organs of elimination, the real work of elimination depends upon the activities of the intestines, more decidedly the

Auto intoxication

large intestines If this organ is not functioning properly, the food waste and its by products together with the poisonous substances cast off by other organs accumulate in the colon and pass through the most dangerous process of re absorption As a result, the poison which ought to have been eliminated quickly is thrown into the blood, carried to the tissues, nerves and brain and the health of an individual suffers

Auto intoxication

§1. It is now generally admitted by the medical students of various cults that in fact, as it is, we almost always do die of poisons Poison, therefore, is the main factor in causing old age and death not directly due to injury. Practical yoga recognizes this fact and offers a large variety of purificatory processes for the thorough and prompt elimination of all such poisons

Intestinal toxemia is the most universal of maladies, and the main source of auto intoxication is the colon with its seething mass of putrefying food residues. According to Vignal and Suckdorf, an adult man passes daily in his fæces from 30,000,000,000 to 50,000,000 000 of bacteria The harm these micro organisms do is through the products which they form and which, when absorbed, are toxic—e g indol and skatol We are informed by such authorities as Oliver that "However numerous may be the causes of auto intoxication, there

87

Care of the Digestive Organs (Colon)

is not the least doubt that it is from the gastro-intestinal tract that the poisons are principally absorbed ¹ Kellogg observes "that almost every chronic disease known is directly or indirectly due to the influence of bacterial poisons absorbed from the intestine ² Thus, the most despised and neglected organ of the body, the colon, has only in recent years been made the subject of much scientific study and research, with the result that a lively controversy has been stirred up over this important subject. Anatomists declare that the colon is an useless appendage, bacteriologists call it the chamber of disease, and surgeons recommend its removal for the safety of the rest of the body There are, of course, pro-colon partisans as there are these anti-colon enthusiasts. One thing nevertheless is true that on the condition of the colon depends the health of an individual Until very lately almost nothing has been known of the colon and thus this organ has been more or less a *terra incognita* Recent investigators like Bouchard, Hemmeter, Muller, Albu and others have realized the importance of this organ and abundantly proved by demonstrations that a clean colon is the only sure preventive against disease. "If, as demonstrated, the gastro-intestinal tract is the source of the largest number of poisons that cause auto-intoxication, then

¹ Cf *Auto intoxication of Intestinal Origin* by Dr Thomas Oliver p 325

² Cf Dr J H Kellogg *Colon Hygiene* p 184

Methods of Elimination

clearly this is the part of the body that calls for special attention and treatment"¹.

Methods of Elimination

§2. Realizing well the necessity and importance of a clean colon, the question that remains to be settled is Which is the best method of keeping the colon healthy? We have Tyrrell with his cascade, Lindlahr with the bran, Kellogg with the agar agar and mineral oil and a large number of other practitioners, both small and big, with varied suggestions for the regulation in diet, more vegetables and vitamins. The practical yogins have given this matter their most careful consideration and, over and above the dietary code, the internal kneading and massaging of the intestines (through the process of *nauli*), the various abdominal exercises and postures, have further recommended what may be termed the air-irrigation (*sthula, śuska* or *vāyu basti*) and the water-irrigation (*jalabasti*) of the colon. This yoga process of *basti* or natural enemata while seemingly alike the modern enema effect is fundamentally different both in execution and effect in so far that the air or water introduced in the intestines is neither by the applied power of gravitation nor pressure (the former represents the ordinary douche system whereas the latter is evolved from the previous contrivance in

¹ Cf. Dr. Ch. Bouchard, *Auto intoxication in Disease*, p. 326

Care of the Digestive Organs (Colon)

the form of self administering appliances worked by one's own pressure) It is on the contrary rather an extremely natural process of suction aided by a peculiar type of abdominal vacuum which the holothuria pentactes practises almost the very moment of its existence¹

It is quite unnecessary here to enter into the details and technique of the process of basti as there are many other preliminary exercises which have to be mastered before the same can be attempted or even recommended to a layman It is thus possible, at this stage to treat only of such accessory and preparatory methods as lead to colon hygiene Among these processes the ones which may be easily practised without much guidance are certain postures and breathing methods In the rationale of yoga postures or *asana* there are a large number of such movements that encourage bowel activities²

Intestinal Gases

§ 3 While treating of the colon hygiene the part played by the intestinal gases (for the intestine also

¹ The description of such a process in animal kingdom occurs in *Lancet* 1833-34 Vol II p 960

² That exercises or postures which bring into strong action the generally weak and relaxed abdominal muscles and thus raise the intra abdominal pressure are of first importance to persons suffering from constipation etc is generally acknowledged by the medical authorities Compare *Colon Hygiene* by J H Kellogg M D pp 272-273 ff

Intestinal Gases

contains gas produced in the digestive canal) can hardly be overlooked. When fermentation of a putrid character predominates, there is produced rather an excessive

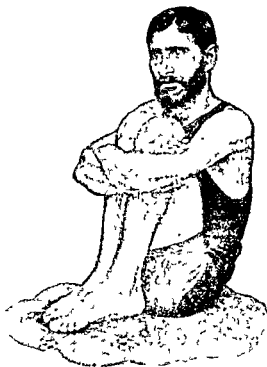


FIG 9

Pawanamuktāsana when practised in a sitting position

disengagement of sulphuretted hydrogen, ammonia and other poisonous gases which have to be expelled before much harm is done. For this, the yogins suggest

Care of the Digestive Organs (Colon)

certain anti gas postures which help to relieve such a congestion

Anti gas Postures

§ 4 The posture or *asana* especially designed to release intestinal gas is known as *puanamuktasana* (posture for the expulsion of internal gas) and is practised thus Sit on the hinder part of your body i.e. the buttocks bending both the knees tightly together and then pulling them or rather pressing them close to the abdomen and the chest Then fold both the arms over the knees and interlock them as shown in Fig 9 A slightly inclined position backwards just enough to allow the feet to be raised from the ground will be found extremely beneficial Do not interrupt this position with any bodily movements like the modern physical exercises (for the voga postures are not gymnastics and the highest virtue they possess lies in the secret of maintaining a particular physical pose for a definite period of time) but try to hold the same position and maintain it for about ten to fifteen minutes

This posture when practised upon an inclined plane affords greater relief in a shorter period than the ordinary practice above suggested¹

¹ Mechano yoga appliances like the folding table the ordinary ironing board or plank (placed with one end resting upon a bed couch or a window sill) etc. can be easily substituted

Anti gas Postures

Those desiring easy access to this posture have another alternative as well Lie on your back and, after

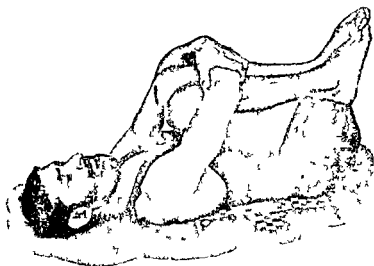


FIG 10.
*Pawanmuktasana as may be practised in
a [down] position*

drawing the knees close to the chest press the thighs as illustrated in Fig 11 to receive the highest benefit of this posture

Even though a large number of abdominal exercises can be suggested for this purpose the author's object is to represent only the yoga practices (in their traditional form) without any modification or exaggeration. An attempt to clothe or twist the original yoga practices so as to make them appear in a way like physical exercises is really undesirable for the yoga postures differ in many details of technique and generally surpass in physiological effects the so called physical exercises

Care of the Digestive Organs (Colon)

tightly upon the abdomen (by increasing pressure upon the knee through the interlocked arms) This knee-chest position is an excellent aid to internal pressure upon the contents of the abdominal viscera. Now remember to take in a deep breath while relaxing and exhale vigorously by drawing in the abdomen and tightening the elbow lock over the knee. See Fig 10. This, when practised alternately with either the left or the right leg, is called *Samapada* and *dal samapada* pavanamuktasana respectively¹

Postures for avoiding Constipation

§ 5 The most important of all forms of postures for combating constipation are those which by opposite exaggeration bring about equilibrium. The yogins therefore suggest (in contrast to the ordinary head up leg down position) the head low hips and legs high postures which bear three special advantages. First, such position greatly aids in the replacement of the prolapsed stomach and colon, these conditions being almost universally present in chronic constipation. Second, the head low position drains the abdomen of blood, thus relieving congestion of the viscera. Third,

¹ Among the other anti gas postures (so classified because of their direct or reflex influence) are *ardha urvasana*, *ulkaṭasana*, *hastabujasana*, *uṣṭrasana* and *padmaṇasana* all of which are difficult of practice and are therefore omitted here. These however will be elaborated in the succeeding volumes.

Postures for avoiding Constipation

the constant pressure through gravitation upon the abdominal contents have to be reversed in order to gain the opposite effect and it is only after the viscera have been restored to position that any benefit is derived from other practices¹

(a) *Sarvangāsana* *Sarvangāsana* or the all body pose is practised by lying supine at full length (arms on



FIG 11

Position of an inclined plane (specially adopted but which may be easily improvised)

sides), with all the muscles relaxed. Then, slowly raise the legs together up enough to make a right angle with the body, all the while keeping the knees stiff and the body above hip joint on the ground undisturbed. At this stage, raise the arms and hold the waist and push the body up as far as possible. Put the weight on the arms and rest on the elbows,

¹ Compare similar opinion of Dr Kellogg on this subject in *Colon Hygiene* p 281

Care of the Digestive Organ (Colon)

legs thrown upwards. When this position is secured, make an attempt to shift the hands slowly towards the shoulder-blades, setting the chin in the jugular notch as shown in Fig 12. This posture can very profitably be attempted even in parts (if not as whole) when the same cannot be secured in one attempt or even after a practice of many days. When practised, as illustrated, through the inter inversion of the blood vessels, over and above its physiological effects upon the abdominal viscera, a richer blood supply is encouraged in the region of the brain, the thyroid and the thorax. The activities of both the thyroid as well as the parathyroids are thus stimulated resulting in the increase of internal secretions that these organs generate and which, as the students of physiology have lately demonstrated, contribute much towards good health and preventive against a large number of diseases¹.

Different forms of sarvaṅgāsana have been suggested by different students of yoga e. g. the original pose with the modification of the extended arms, the same repeated with the toes touching the ground with concave spinal curve etc. In the preliminary stages, however, the method described above is abundantly serviceable

¹ That certain diseases can also be radically cured by the mere exercise of this posture has been theoretically proved by scientific treatment of this subject aided by laboratory and clinical tests appearing in the Yoga Mimamsa quarterly. Ref *Yoga Mīmamsā*, Vol I and II

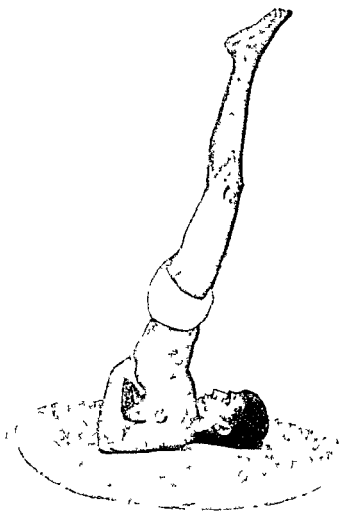


FIG 12

Sarvangasana with the jugular notch
(final position)

Cure of the Digestive Organs (Colon)

legs thrown upwards. When this position is secured, make an attempt to shift the hands slowly towards the shoulder blades, setting the chin in the jugular notch as shown in Fig 12. This posture can very profitably be attempted even in parts (if not as whole) when the same cannot be secured in one attempt or even after a practice of many days. When practised as illustrated, through the inter-inversion of the blood vessels, over and above its physiological effects upon the abdominal viscera, a richer blood supply is encouraged in the region of the brain, the thyroid and the thorax. The activities of both the thyroid as well as the parathyroids are thus stimulated resulting in the increase of internal secretions that these organs generate and which, as the students of physiology have lately demonstrated, contribute much towards good health and preventive against a large number of diseases¹.

Different forms of sarvangasana have been suggested by different students of yoga e.g. the original pose with the modification of the extended arms, the same repeated with the toes touching the ground with concave spinal curve etc. In the preliminary stages however the method described above is abundantly serviceable.

¹ That certain diseases can also be radically cured by the mere exercise of this posture has been theoretically proved by scientific treatment of this subject aided by X-ray and clinical tests appearing in the *Yoga Mimamsa*. * Ref *Yoga Mimamsa* Vol I and II

Postures for avoiding Constipation

stage, in parts For example, (1) with the above position well secured, try to lift the toes from the ground by drawing the knees close to the chest This practice most suitable in the early attempts can be followed for



FIG 13

Sirasana as in prayer (the initial stage preparatory to lifting the body)

a period of five to ten minutes (continuing over a month till it is perfected) Now, (2) with the previous position well grounded fold the legs over the thighs (bending from the knee joint) and straighten them out, i.e. the thighs till they are brought in a line with the trunk Sufficient caution should be exercised during this stage to see that a collapse backward is avoided by more attention at

Care of the Digestive Organs (Colon)

It should be understood that when practising these head low postures, great care must be taken to avoid any possible strain and the period of exercise should be fixed at minimum i.e. from twenty seconds (in the beginning) to fifteen minutes at the most (when the posture has been finally mastered). Further the posture should not be attempted after any form of rigorous gymnastics as the abnormal rush of blood in the brain at this stage might do a great deal of harm.

(b) *Sirasana Śirasana* or the head posture, more appropriately the topsyturvy pose, is another form of head low exercise which even though difficult in operation is an extremely useful practice for persons suffering from either indigestion or constipation. Its technique is as follows.

Sitting in a squatting position, interlock the fingers of both the hands tightly and place the finger lock in front (on the ground) making, as it were, an angle of the forearms. Now place the head at the vertex i.e. the finger lock, by bending the body after falling on the knees (as if in prayer). See illustration No. 13. Then, supporting the head from behind by the finger lock (use the hinder part of the head rather than the forehead), try to slowly raise the lower part of the trunk and hold it perpendicular with the ground. Place all your weight on the elbow angle and the hinder part of the head. This completes the first effort.

This posture can be conveniently attempted, at this

Postures for avoiding Constipation

stage in parts. For example (1) with the above position well secured try to lift the toes from the ground by drawing the knees close to the chest. This practice most suitable in the early attempts can be followed for

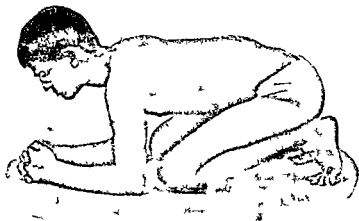


FIG 13

Sarasana asana preparatory (the initial stage preparatory to lifting the body)

a period of five to ten minutes (continuing over a month till it is perfected). Now (2) with the previous position well grounded fold the legs over the thighs (bending from the knee joint) and straighten them out like the thighs till they are brought in a line with the trunk. Sufficient caution should be exercised during this stage to see that a collapse backward is avoided by more attention at

Care of the Digestive Organs (Colon)

the vertex and necessary pressure upon the elbows /
Continue this second form of incomplete *sîrasana* over a
period of many months before attempting the last stage

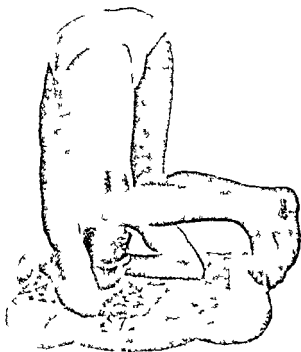


FIG 14
Sîrasana (first stage)

(3) With the previous position sufficiently mastered
start by raising the legs up in the air till they are fully
stretched and brought in a line with the rest of the

Postures for avoiding Constipation

body. This is termed complete śīrāsana. For guidance, refer to illustrations No. 14, 15 and 16.

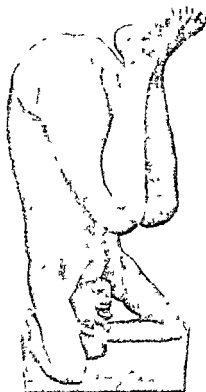


FIG 15
Śīrāsana (second stage)

In the beginning, aid may be secured for supporting the body either in the form of an individual holding
101

Care of the Digestive Organs (Colon)

the legs on a wall against which one can conveniently lean. This, however, should be discontinued at the earliest opportunity and an effort should be made to maintain the balance without any support. Needless to emphasize that jerks and hasty movements should be avoided during the progress of this asana and immediately after its performance the body should be made to rest (as suggested under *Care of the Brain and Nervous System*) before resuming normal activities.

Among other postures conducing more or less to the same physiological effects are *utkāsana*, *urdhva padmāsana*, and the various forms of *mukta utkāsana*.

The hygienic and curative value of this practice is manifold as is evident from the laboratory and clinical tests besides a large number of testimonials collected and published by the practical yoga enthusiasts¹. We have also sufficient medical evidence to warrant the use of this posture especially in improving the condition and activity of the digestive apparatus².

Stretching of the Abdominal Muscles

§ 6 Stretching of the abdominal muscles is also another form of exercise which helps the colon to main-

¹ The editors of the *Yoga Mimamsa and Asana* (a Marathi publication by Mr S. D. Satavalekara) elucidate various remarkable cures effected in different diseases through the exclusive use of *śīrasana*.

² It is remarkable that nothing much has been gained

Stretching of the Abdominal Muscles

tain normal functions. Such postures by stimulating the peristaltic action of the intestines prevent constipa-

through laborious experimentations except that the achievements of the modern medical students only go to confirm the old investigations and conclusions of the yogins. A typical example of this truth is suggested by the proof presented by Dr C J Muttart. According to Dr Muttart who gave a clinic at the Philadelphia College of Osteopathy on 27th Jan 1922 standing on head is the latest cure for indigestion. He observes that if you have indigestion or constipation stand on your head. Explaining at length he remarked that a great deal of indigestion is caused by the misplacement of the stomach. Such misplacement can often be cured by relieving the strain of the supporting muscles. Such relief is obtained by lying with the feet higher than the head.

Dr Muttart had a patient at the clinic whose stomach was four inches below its normal position. He suffered intensely from gastronomic and intestinal troubles.

This case before us said Dr Muttart is of course extreme. The stomach of this young man is so low as to affect the proper functioning of his intestines. Before any attempt at curing him may be made it will be necessary to try and raise the stomach nearer to its normal position.

There are however many people suffering from indigestion which is caused by the stomach being too low. A very simple remedy for those who have this illness is to rest with the feet higher than the head thus giving relief to the strained muscles that support the abdomen. In time they will fully recover and the stomach will return to its normal position and bring infinite relief from gastritis and indigestion.

The New York Times 28th January 1922 p 6

Care of the Digestive Organs (Colon)

tion, hepatic torpor and tendency to distend. They further tighten the abdominal muscles and ligaments and are therefore, very useful in case of hernia.



FIG 15

Sirasana (the shoulder stand) as should be followed in its final stage

The bow curve pose or *dhanurasana* is an excellent posture for stretching of the abdominal muscles. It is described differently by the old authorities. The method referred to here is secured by lying prone on the abdomen. Bend the legs from the knee joint upwards and fold them on the thighs from behind. Now with the hands (at full length) receive the ankles and grasp them well as shown in Fig 17. Then raise the neck simultaneously with a steady lift and pull upwards of the ankles assuming

the position as shown in Fig 18. In order to derive

Stretching of the Abdominal Muscles

the highest benefit from this practice, however, the knees should be kept together and not separated¹

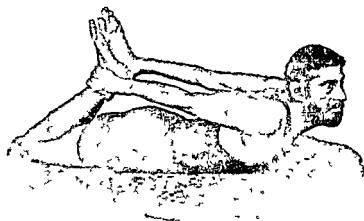


FIG 17
Dhanurvakrasana in its initial stage

The special features of this posture are (1) the extraordinary amount of intra abdominal pressure (due to the whole body being thrown upon the abdomen) and (2) a steady pull anteriorly throughout the spinal column with alternate contraction and relaxation of all the

¹ The posture listed under the title of dhanurasana in *Hastharyogpradipika* (I 25) and *Yogasana* (p 36) differ fundamentally from the one referred to as dhanurasana or dhanurvasana in *Gherandasamhita* (II 19) and *Hastharyogsamhita* (p 21). In order to differentiate between these postures, I prefer the use of terms *karyadhanurāsana* for the former and *dhanurvakrasana* for the latter

Cure of the Digestive Organs (Colon)

important spinal muscles, especially the ones located at the sacral end

The other poses which largely contribute to thorough stretching of all the abdominal muscles are *bhujangasana*, *śalabhasana*, *urśvilasana*, *usthāsana* and *catulāsana*¹

Internal Massage

§ 7 Among the breathing methods which encourage activities of the intestines, those which by internal massage help to keep the colon clean are of primary importance. A certain form of *śalticālana mudra*², engaging successive and rapid abdominal movements through breathing, is an extremely useful exercise for the colon. It is practised thus: "Lie on your back with practically nothing over you in form of clothing. Now fix your eyes and attention upon your abdomen. After a complete exhalation or inhalation whichever is convenient, start a movement of its muscles i.e. push the contents down and draw them up quickly in a

¹ For such physical exercises as the trunk twisting, the full body swing, the piston movement, the windmill action, the rowing exercise, the lody bridge and a number of other movements which are of course also serviceable in strengthening the abdominal muscles, a reference should be made to *Rhythmic Exercises* by Shri Yogendra (1928 Ed.)

² See *Yogabhyāsa*, p. 82

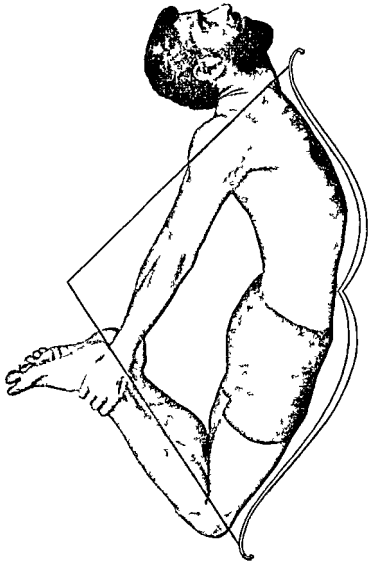


FIG 18.
Dhanurvakrasana as should be practised in its final stage

the abdomen¹ Lie supine with the hands passively relaxed and the body absolutely free from any tension. Slowly draw up the contents of the abdomen after complete exhalation until the latter looks like a deep valley as though everything inside you was up in the chest cavity. Then push them down and bloat up the abdomen to its possible limit until you are ashamed of your protruding belly. Now draw up, push down, wiggle, wobble, twist, turn and do every possible effort to exercise all your insides over and around—at least that is the feeling you should have.²

Both the above breathing exercises can be most effectively practised even while standing. Figs 13 and 20 illustrate the position of the abdomen during complete inhalation and exhalation in the last method above suggested.

A Valuable Contribution

§ 8 The efficiency of these simple practices referred

¹ Cf. *Breath & Health* by Shri Yogendra, p. 14.

² Cf. *Sanskrit* IV, 13.

³ See *Breath & Health*, p. 35.

A Valuable Contribution

to in this section of colon hygiene is fairly well illustrated in the case of Mr Raymond J Lutes Jr

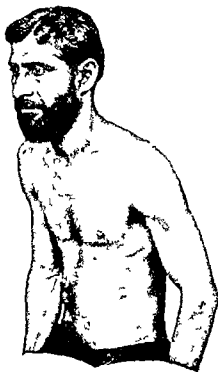


FIG 19

The position of the thorax and the abdomen during complete inhalation (recommended only for internal massage)

(26 years) of Brenton Harbour, Mich (U S A) who suffered from intestinal ulcer and was advised by over

A Valuable Contribution

condition any further. The only hope that was held before them was that he could be spared the surgical attendance. It was however decided that the patient be removed to New York the same evening. When the case was admitted for treatment, after their arrival, it was found that the hope of recovery was only a chance as the condition of the patient was aggravated. Two sleepless

Care of the Digestive Organs (Colon)

twenty leading physicians to undergo surgical treatment. An appointment had already been made for him to undergo the necessary operation next morning in one

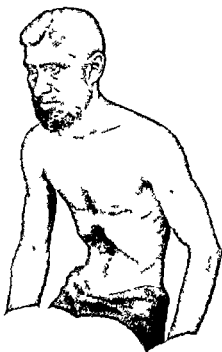


FIG. 20.

*The position of the abdomen during
forced exhalation*

of the leading hospitals of Chicago. Some female patient previously treated in the Yoga Institute (the party in some way being related to the patient) advised the father to remove his son to New York for the yoga treatment. Along journey from Chicago to New York was unthinkable under the circumstances for the patient was in acute pains, and often roared

loudly for he was actually in no position to suffer the

A Valuable Contribution

condition any further. The only hope that was held before them was that he could be spared the surgical attendance. It was however decided that the patient be removed to New York the same evening. When the case was admitted for treatment, after their arrival it was found that the hope of recovery was only a chance as the condition of the patient was aggravated. Two sleepless nights jerks and noises in the train practically exhausted all the balance of his vitality and he was required to fold his fists tightly against his abdomen to prevent himself from giving up to a loud cry of pain. Needless to enter into the details of treatment etc (as the purpose of this work is limited) suffice it to say that after a stay of six weeks in the Institute at the request of the patient and his father the patient was discharged (even though it was suggested that two weeks more for building up purposes would materially help him) and submitted his testimonial on March 10th, 1922 which reads

1126 I arrived in your Institute six weeks ago today after being told that I would have to have an operation to cure my intestinal ulcer.

Now I find that after I have taken your treatment and living on a diet my pains are almost all gone and feel very sure I will get well again without having an operation. If I had not heard of you through a friend, I would be required to go through the operation so you know how glad

Care of the Digestive Organs (Colon)

I feel to be getting well again without having to be operated on

Enema

§ 9 The use of enema to relieve the waste matters from the colon when natural bowel movements are not fully satisfactory has become quite common among all classes of medical practitioners. As a further consequence its bi weekly use has become very popular among the majority of hygienically inclined people. Objections are made by certain authorities to the regular use of enema for various reasons. Of course, the necessity for the use of the enema would cease to exist were the waste materials eliminated thoroughly through natural bowel movements. But so long as this state is not reached, an enema is a far better treatment than drugs or drastic purgatives.

The best method, however, is the yoga process of basti or natural enemata which requires nearly three to six months of practice (at least, an hour a day) to understand and master its technique. In the absence of this knowledge, many useful suggestions can be offered from the yoga point of view, to make the ordinary enema thoroughly successful.

(a) *Favourable Positions for Enema* From the arrangement of the large intestines it will become apparent that there are three positions in which the colon may receive a full supply of water (1) the right

side, (ii) the knee-chest, and (iii) the flat-on-the-back. That the enema taken in a sitting posture (unless some special device is employed to force the water deep) as also in the lying down position on the left side is more or less a failure for the gravity can assist the flow only as far as the transverse colon. Thus, in the ordinary way, only one-third of the bowel is possible of flushing. The right side position, however, allows the water to flow in easily along the descending colon, down to the transverse section and finally through the ascending gut to the cæcum. The knee chest and the flat on-the-back positions insure, with even greater ease, complete flushing of this organ.

(b) *Use of Uddīyāna in Enema* This ordinary flushing of the enema can be radically improved by the aid of certain yoga methods of breathing viz. *keṭālāśvaka* or complete exhalation followed by a complete suspension of breath and the drawing in towards the spine of the abdomen as in *udḍīyāna*. See Fig. 8. This can be practised comfortably even while in the knee-chest or in the squatting position. It has been observed through laboratory tests that under ordinary conditions, the water injected by an enema (through a douche-can filled with three pints of liquid and placed about five feet above the subject) reaches the splenic flexure only, leaving two-thirds of the remaining part of the colon absolutely free. This is termed low enema and is usually the type so generally followed



FIG 1

Ratio of the success of the process of the last

X ray Investigations

by a majority of people. It is thus clear that under ordinary circumstances it is *not* possible to induce high enema which really is the only important cleansing

X ray Investigations

§ 10 Scientific tests and X ray experiments conducted on the process of uddiyana (previously referred to) however have shown undoubtedly that even one pint of water can be made to cover the entire colon spreading the contents at once up to the cecum. Fig. 21 is a reproduction of a radiograph showing the flushing of the entire canal. It will be seen that the fluid from the cecum and one fourth of the ascending colon has been drawn up and the ordinary position of the ascending colon considerably changed by a pull towards the spine. The transverse colon on account of its increased contents (the opaque injection recommended by Hanisch for X ray tests and investigations) casts very dark shadows. As a further result its angle at the hepatic flexure has largely disappeared and the colon presents almost a circular arch (dome shaped) lying up in the abdominal cavity. The descending colon is likewise affected and instead of its perpendicular fall (at nearly a right angle), the splenic flexure giving accommodation it takes the form of a fine curve and on its way is drawn towards the spinal column. This arrangement of the large intestines in uddiyana is very favourable to perfect flushing of these parts as is evident from the fact,

Care of the Digestive Organs (Colon)

that the whole liquid has been evenly drawn and distributed in the entire canal i.e. the descending, the transverse and the ascending colons. These, of course, are the parts which need thorough cleansing and uddiyanā is the only best means which can be supplemented to the modern enema to make the colon flushing more effective and thorough.

The technique is expressed by the use of the word uddiyanā itself so called because the diaphragm is made to fly up (*uddiyana*) from its normal position and held very high in the thoracic cavity. This raising of the diaphragm from its original position is the main secret which insures with greater ease a thorough irrigation of the colon than through the efforts of even the best mechanical means employed by the physician to secure high enema¹.

Early Demonstrations

§ 11. When a demonstration of this nature—the practice of uddiyanā during the process of colon-flushing—was offered by the author in New York²

¹ These processes when scientifically studied under the fluorescent screen reveal a very high therapeutical value. The technical details will be discussed in the succeeding volumes of this series.

² At the request of Prof S N Dasgupta of the Calcutta University (of international reputation in Indian Philosophy), a similar performance was undertaken for close study at the Chittagong College (1923) before the professors and a few medical students.

False Anti peristaltic Hypothesis

(1920) before leading physicians including Dr Meltzer of the Rockefeller Research Institute and Dr Bell of the Hygiene Reference Board it was observed by Dr Hautman (a specialist in the stomach and intestinal troubles) that this process may lead to the cultivation of what is termed anti peristalsis habit. If true this hypothesis has a highly dangerous import for this and other allied processes viz *nauli*, *saktualana* etc which are so favourably spoken of in the texts and whose practice is recommended every day.

False Anti peristaltic Hypothesis

§ 12 It was then maintained by the author that the raising of the water into the colon is most probably due to some sort of a vacuum as is generally evidenced in the ordinary water pumps. Further that the lack of evil effects largely associated with anti peristalsis was not only absent but on the contrary a healthy and refreshing sensation was experienced by the student continuing over many days even after such a performance. Although scientific investigations and X ray study of this process was overlooked at that stage the truth has now been brought home by the successful experiments of Śrīmat Kavalayananda closely followed and corroborated by scientific investigations viz X ray and screen examination etc. A student therefore, need not entertain any false belief or hypothesis of anti peristalsis while practising uddiyana, nauli or other

117

Care of the Digestive Organs (Colon)

processes nearly or remotely allied. That the raising and spreading of the water in the colon is actually promoted by some sort of a vacuum created in the abdominal cavity¹, and that the anti-peristalsis hypothesis is abundantly absurd to warrant no serious consideration have been further proved by very recent investigations.

Besides the uḍḍiāna process as an aid in ordinary enema, the movements of the intestines (as suggested on page 106 f.), after retaining the water in the colon for ten to fifteen minutes, will add greatly to loosen the clogged up residues hiding in the intestinal folds.

The Hygienic Time Table (Section V)

§ 13. The following table will be found useful in

Organ	Yoga method	Frequency	Time
The Colon	<i>Parānamuktāsana</i>	only in evening	5 minutes
"	<i>Sarvangasana</i>	morning & evening	3 "
"	<i>Śīrāsana</i> (any stage)	" "	2 "
"	<i>Dhanurvalāsana</i>	" "	3 "
"	<i>Śakticalana</i> (certain form)	only in morning	2 "
"	<i>Uddiāna</i>	" "	2 "
"	Enema (high)	once a fortnight	20 "

¹ This partial vacuum is termed by the Editor of *Yoga-Mimamṣā* as the *Mādhavaśaśa vacuum*, after our mutual master

Caution

adjusting time and frequency with which these exercises be practised

Caution

§ 14 Those with weak heart and pulmonary complaints are cautioned to perform the śākticāṇa and uddiyana processes heremabovē suggested very mildly and that also for a period of only one minute twice a day (at the most) as these exercises put a considerable pressure upon the heart. Further, the yoga authorities recommend the use of uddiyana only on an empty stomach and care should be taken to see that this condition is faithfully observed

(His Holiness Paramahansa Madhavadasaji) under whom he had occasion to study the practical yoga for a few months

Compare *Loja Mimamsa* I 1 p 28

CHAPTER VIII

CARE OF THE RESPIRATORY APPARATUS

Regulation of the breathing movements¹
is the practical *Yoga praxis* alone. He who
knows its secret knows Yoga

*Yogasiddhanta*² (MS) p. 19

THE hygiene of the respiratory organs consists in the care of the thorax, the respiratory muscles and the lungs (including the air-passages which lead to them)

The thorax or chest cavity is like a movable cage within which are contained the most important organs of breathing, the lungs, and circulation, the heart. The muscles of the thorax are known as intercostals and

¹ The respiratory movements are supposed to represent only a portion of the grosser activities of *Prana*. Some authorities on the strength of Patanjali's interpretation as also of his later commentators hold that *prana* is breath (*kausthasya rayukh*). This of course is extremely misleading and not in conformity with the more accurate interpretations by a majority of other authorities and even the technique of practical yoga. *Pranayama* really means the control of the *prana* or the bio motor force and the regulation of the breathing movements is merely a means to an end. For further references and details compare the findings in *Yoga Psycho physiology* Vol. IV awaiting publication.

Care of the Respiratory Apparatus

fill the space between the ribs and complete the chest walls, and the diaphragm which closes the cavity of the chest below, separating it from the abdomen¹ The

¹ Lately, considerable discussion has been raised upon the comparative influence of the ribs and the diaphragm during the respiratory acts. (1) A majority of physiologists are of the opinion that the diaphragm is directly responsible for raising the ribs *The Diaphragm and its Functions* by J M W Kitchen M D (2) On faith of his recent investigations Dr Halls Dally maintains that in raising the ribs the diaphragm is also assisted by the external intercostals *Lectures on Respiration in Health and Disease* by the same authority (3) A prominent physical culturist however holds that it is really the ribs that move the diaphragm *My Breathing System* by J P Muller (4) That all the above views are radically wrong is emphasized by the editor of the *Yoga Mimamsa* He has tried to prove with the aid of certain X ray experiments conducted with a view to test the physiological benefits of the various yoga processes that respiration can also be carried on independently without the use of the diaphragm i e inhalation and exhalation can be performed without any noticeable change in the position of the diaphragm This is true specially under certain conditions of yoga breathing viz whenever uddiyana is maintained As the latter view is upheld conditionally, no general remarks can be pronounced as yet It may be however, maintained that this special aspect of yoga breathing (apart from many others) offers a very great curative advantage over the so called deep breathing exercises As such its complete discussion is reserved for the future publications (*Yoga Psychophysiology* Vol IV and *Yoga Breathing Methods* Vol VI) for the subject really involves more of physiological treatment than of hygiene

Care of the Respiratory Apparatus

other auxiliary muscles such as the scaleni however, are not in use during quiet or normal breathing

The lungs being encased in the thorax have no direct communication with the outside except by means of the respiratory passages. In the usual respiratory act, the air enters these passages through the nostrils or through the mouth (only under certain conditions) whence it passes through the larynx into the trachea (wind pipe) which divides into two branches (bronchi) one to each lung. The lungs have a spongy elastic texture and are composed of numerous minute air sacs or alveoli which connect with the outer air by means of the bronchial tubes. Again, these air sacs are of various forms, depending upon the mutual pressure to which they are subject. The function of these alveoli is to allow the red blood-cells to absorb oxygen from the air and give off the carbon dioxide.

The conditions which prevent the proper functioning and development of the lungs are chiefly the deformities of the thorax and of the spine. These when not much advanced in their conditions, could be modified by certain correct postures¹. But the most common form of attack which threatens the life of every individual practically every moment of his existence is the invasion by the countless number of dangerous microbes as of influenza, pneumonia, tuberculosis etc upon one or

¹ Cf. *Body Postures* Vol. V of this series (in the press)

Fourfold Act of Respiration

many of the respiratory organs. Even the common catarrh of the nasal origin has been found to have a deleterious effect upon the air-passages and often leads to such inflammatory conditions as the bronchitis, asthma and still more serious consequences. That these dangers could be easily avoided by the proper and timely care of the air-passages and the respiratory apparatus need hardly be emphasized.

Furthermore, the functions of the heart and lungs are intimately connected and a strongly developed set of respiratory organs also adds greatly to the perfect circulation of the blood. The red-blood cells which form a major portion of the blood (approximated at seventy-five thousand million in one cubic inch of blood) are the common carriers of oxygen, taking up a load of oxygen from the lungs to the various tissues of the body. On their return journey, these cells, like a merchant vessel, bring a cargo of waste products of the body and unload the carbon dioxide in the lungs to be thrown away. This process of co-operation between the lungs and the heart continue from the first sign of life till the end of its existence.

Fourfold Act of Respiration

§ 1. Respiration consists of the alternate expansion and contraction of the thorax by means of which air is drawn into or expelled from the lungs. These two movements are termed inspiration and expiration res-

123

Care of the Respiratory Apparatus

pectively. Yoga maintains that this complete act really consists of four stages immediately following each other viz (i) suspension (ii) inspiration (iii) retention and (iv) exhalation¹. Yoga also maintains that the health of the respiratory apparatus largely depends upon the quantity and quality of the air inhaled² and the rhythm and completeness with which the four major acts of respiration are attended.

Deep Breathing

§ 2 Much attention has been recently directed by the medical authorities towards educating the public on the necessity of deep and proper breathing as an absolute *sine qua non* of health. As a consequence, various so-called breathing exercises have been suggested by the different authorities and some of them have even been introduced in the daily hygienic routine of a man.

¹ These are termed *sa jalā puraka kumbhaka* and *recaka* respectively by *Vijāna Bhūṣu*. See *Loṣasāsa grāha* p 41 (II). Patañjali is not clear on this point for he mentions only the inspiration and expiration with the pauses occurring before and after each of these two main acts of respiration. His commentators especially Vyasa and Vacispati (Nagesa Anandapandita Bhoja and others differing technically among themselves) interpret his aphorisms (*Yogasūtra* II, 49-50 ff) as suggestive of fourfold *prāṇāyama*. The Hathayoga authorities generally refer to the threefold process of respiration : *in* *puraka kumbhaka* and *recaka*.

² See Chapter XII on *General Hydrogeology*

Deep Breathing

It can hardly be gainsaid, however, that breathing forms the most vital process of life-activity. This action keeps up till the time of death and, in the meantime, the blood is being purified and aerated through the lungs. All the organs of the body work in rhythm so long as they are kept supplied with pure blood from the heart, but when this is stopped or vitiated their action also stops or becomes dull or deadened. It is, therefore, recognized that the biological and psychic activities of a being depend mostly upon the supply of oxygen.

Apart from its beneficent physiological effects on the whole system, deep breathing is a great preventive against a number of diseases¹. It is admitted even by such authorities as Fisher, Fisk and others that "‘A hundred deep breaths a day’ is a physician’s recipe for avoiding tuberculosis. A Russian author, who suffered a nervous breakdown, found—after trying many other aids to health without success—that a retired life for several months in the mountains in which *simple deep-breathing exercises* practised systematically every day formed the central theme, *effected a permanent cure*’².

¹ It may be of interest here to observe that we (human beings) have a greater reserve force in our breathing capacity than animals, which if properly developed, keeps the blood warm and full of those cells which are active enemies to disease germs. Compare *Breathe and be Well* by W. L. Howard, M. D., p. 26.

² See *How to Live* p. 25.

Care of the Respiratory Apparatus

Also as a curative agent deep breathing is strongly recommended by the highest medical authorities besides the value of outdoor living and sleeping. Dr Millet, a Brockton physician began some years ago to prescribe outdoor living, rest and deep breathing to his patients who were suffering from tuberculosis. The results obtained as may be expected were very satisfactory. Deep breathing in the sense of forced inhalation and exhalation by conscious efforts has now the general approval of almost all the leading practitioners in various countries.

(a) *Air Hunger* Of course, the freedom of the lungs from disease more than most organs depends on the maintenance of a high standard of bodily health. Proper and symmetrical development of the body also implies a strongly developed set of respiratory muscles. In course of one of his lectures, Dr Neimeyer emphasized that, 'contrary to the general opinion that eating and drinking are the principal functions of life hygiene maintains that air, or the 'vital air' as the discoverer of oxygen calls it, is the real *pabulum vite* (Hippocrates). He further observes that "Whereas under natural conditions, the 'swallowing' of this nourishment is an automatic performance with wild tribes the civilized man, working on the tread mill of daily toil in a confined space, runs the risk of forgetting to take breath, gets chronically 'air hungry' and becomes affected with consumption.

Deep Breathing

'Hygiene considers the practice of the art of breathing—the breathing with a purpose, methodically—as the primary step because it enhances the appetite for air. The first desideratum is that just as we provide several meals daily for our stomach, we should also provide our lungs with the rations they require—viz air, by practising full breathing, an art which we must learn from the new born child.¹

(b) *Defective Breathing* In one of the old works in Sanskrit, it is asked 'What is life?', and the reply is that 'Life is the interval between one breath and another—he who only half breathes only half lives' but he who has mastered the art of breathing has control over every function of his being. It is indeed true that *all life exists only from breath to breath* and the being that neglects to breathe properly reduces his tenure upon life to but a slender thread.

The civilized man has contracted the reprehensive habit of breathing upwards to such an extent as to actually sterilize the upper part of the lungs. About one third of the lung capacity always remains unused by the average person. This third is either the upper or the lower portion of the lungs where the oxygen never reaches. Right here is where so many breathe wrongly—they take deep inhalations, but forget or neglect the absolutely necessary *forcible* exhalations.

¹ Cf. *The Natural Method of Healing* Vol I by F E Bilz p 154

Care of the Respiratory Apparatus

Gangrene which is nothing short of the rotting of an extremity is chiefly due to defective breathing. So also the destruction of the extremities (failure to record sensations or response) and even of the internal organs especially in the aged is largely due to the fact that as the years pass by the blood has less and less oxygen to send to these parts. Nervous instability and the craving for stimulants or drugs, headaches, sleeplessness and such other ailments are many times due to the effects of wrong breathing habits.

The other conditions which cause incomplete respiration are the filthy habits of snoring and mouth breathing. These in themselves are highly dangerous besides their evil effects upon the normal function of respiration.

None has ever gainsaid it yet to the mass of mankind it means no more than if one were to write *omission mu*. And still to the neglect of this primal function of breathing *the world pays an annual tribute of at the lowest estimate a quarter million lives all sacrificed to preventable disease*. Of course one can live longer and live better by learning how to breathe properly and knowing how to do this is an *art* in itself.

Most people nevertheless fail to develop the capacity to its fullest extent even through systematic exercises, because the powerful pushing muscle of the human bellows is not developed and kept under voluntary control when needed. This muscle is the diaphragm

Rejuvenation through Breathing

yet the vast majority of the human race live and die in absolute ignorance of the fact that there is such an organ as the diaphragm. Probably a certain very small proportion of even the educated masses are aware of the existence of such a structure, but that is the limit of their information in regard to one of the most important respiratory organs of the human body.

Rejuvenation Through Breathing

§ 3 The Orientalists have always emphasized the value of deep breathing not only as a great spiritual aid to self-culture but also as an important accessory to health and longevity. There is really no mystery or exaggeration in the claim that *proper breathing methods can rejuvenate the decaying body and organs*. Modern discoveries and experiments in the field of medical science prove beyond doubt that such renewal can be conveniently brought about by developing the respiratory apparatus—a belief which the yogins in India most vigorously maintained some thousands of years back.

Remarking on the process of rejuvenation through successful breathing, Dr. Howard in his popular work observes that "The increase in the number of red blood cells in the body is brought about by *mechanical means*. The condition of the blood always adjusts itself to a variety of bodily and environmental factors. The release from a certain amount of atmospheric pressure on the

Care of the Respiratory Apparatus

body's surface lets loose blood corpuscles which were confined and pressed in some small spaces or tiny arteries and they get into the general circulation

“In the middle aged persons and those beyond, there is an unequal distribution of red blood cells, due to pressure of fat inelastic uterics and weak diaphragms. This latter breathing muscle may be, and generally is, hindered in its freedom by an overdistended stomach or intestinal tract

“This state of affairs means that red blood corpuscles are jammed in or pushed aside to certain extremities or into blind alleys. In these places they are concentrated, and unable to obtain oxygen, the cells die, leaving the cast off materials to be absorbed and make wrinkles and cause stiff joints. These prisoners—red blood cells—in their concentration camps cannot get out except through tiresome efforts, and often they have exhausted much of their stored up oxygen when they do find freedom. Under these conditions they are as useless to the human organization as a lot of skilful mechanics would be crowded into a room and unable to get at their respective machines

“Any mechanical movement or driving force which starts up these red blood corpuscles puts them into circulation—starts them doing their allotted work in rejuvenating the body and its organs. *Certain forms of exercise will aid in accomplishing this change from age*

Preliminary Observances

*to youth, but not unless right breathing methods are rigidly adopted and kept up"*¹

*Preliminary Observances*¹

§4 Before attempting the various yoga breathing methods, it is quite imperative that the following few observances be strictly carried out to derive the highest benefit from their performance

1 Make a habit of cleansing the air-passages thoroughly Get rid of all the clogged up dust and microbes which have accumulated in these passages The mouth, the teeth, the nares, the nasal canal and other air-passages etc all need to be attended directly every day, by a thorough cleansing with plain water, neither too hot nor cold

2 Open up all the windows of the room and let in plenty of fresh air If possible, select an open space free from draft i. e the air moving at 30 feet per second (Shaw)

3 During breathing, unless otherwise suggested, the mouth must be closed. Do not ever let it get the best of you When, however, you find that you cannot go on without taking a mouthful of air (due to organic or functional defects, which ought to be remedied,) stop and take in and blow it out *only through the nostrils* Breathing through mouth is a wrong habit

¹ Dr W L Howard *Breathe and be Well*, pp 118 119 ff
131 9*

Care of the Respiratory Apparatus

and leads not only to an irritation of the throat, but nasal passages missing the normal amount of stimuli are apt to lose tone and the mucous membrane becomes relaxed and falls into the state of passive catarrh

4 Avoid all tight and confining clothing. Ordinary bathing costume is quite convenient. If possible undress yourself and expose the skin to fresh air, the skin also breathes and this process should also be helped

5 Before commencing breathing, it is best to stretch every inch of your body by rhythmic stretching movements

6 Never try extreme stretching of any organ with the lungs empty of air. Whenever stretching exercises are undertaken, the same should be always followed by *deep and rhythmic breathing*. It is always best to hold the breath and do the necessary stretching during the period of retention

7 Always exhale with vigour, slowly and rhythmically and *squeeze out*, as it were, all the lung contents before making any attempt for inhalation

8 If your head aches, your nose or mouth feels stuffy or dry and the stomach cramped up or overloaded, get out into the open air and breathe deeply (ordinary costal deep breathing) and keep it up for five to ten minutes before beginning the yoga method of breathing. Take a few minutes rest and get to your normal

Preliminary Observances

con The then commence the yoga¹ breathing herein suggested

9 Pay more attention to exhalation than inhalation for the latter will take care of itself The expiration should be watched especially, as the tendency is to keep the lungs full of air without emptying them properly, so that Many athletes suffer from acute emphysema, or dilatation of the lungs

10 Quick and jerky breathing might impair the elasticity of the lung structure in men past middle life and should, therefore, be avoided in all efforts at breathing

11 People with weak heart and pulmonary troubles should follow the yoga breathing *very mildly* and should at no stage allow themselves to be overstrained It is also *not* advisable for a child under the age of ten to twelve years to undertake the yoga breathing methods as they cause heavy pressure upon the heart

12 During all kinds of yoga breathing, the abdomen should be kept *controlled* unless otherwise specified This compression of the abdomen encourages the deepest possible inspiration and expiration Even though this preliminary adjustment in the yoga breathing may, in the beginning require extra effort and inconvenience, the condition should necessarily be observed to derive the utmost value of oxygen

13 The manner of deep breathing is also a matter of great importance A large number of people in

Care of the Respiratory Apparatus

trying to breathe deep unduly strain their chest, but and pull the facial muscles to such an ugly *head* start the air-passages which really ought to be open and expanded get closed and crumpled. This not only prevents the free entrance of air but also reacts harmfully upon the development of the nasal passage which should become accommodative with increased effort at breathing. The facial expression, as shown in Fig 22, is a typical example of the wrong manner of breathing that generally



FIG 22.

Wrong nasal expression during inspiration showing the contortion of the facial muscles

becomes a necessity with those who have obstructions in the nasal passages

Summary Observances

The really convenient manner of taking in deep breath, however, is to keep the nostrils wide open (passive) and elated as shown in Fig 23. This exercises the sluggish muscles and tendons of the nose, opens and expands the nasal passage, and thus creates more vacuity which in turn calls for a generous and deep inhalation.



FIG. 23

Right nasal expression during breathing with the facial muscles relaxed and the nostrils elated

The practitioner is advised to make every effort to study this right manner of breathing, before undertaking the course of various breathing methods herein suggested.

14. One, however, must not be satisfied with the

Care of the Respiratory Apparatus

few minutes of respiratory exercises, but he should *make a habit* of conscious deep inspirations and expirations at several other times of the day¹

Yoga Methods of Breathing

§ 5 The exercises hereunder given represent only the initial stages² in the proper study of actual yoga breathing and are, therefore, simple in execution. They are expected to fulfil the requirements of an average student and are quite sufficient to meet the general need for respiratory hygiene. The other higher yoga processes for breathing are more or less complicated, and their technique not so easily understood without the guidance of a practical teacher. Such exercises have, therefore, been omitted purposely from this volume.

(a) *Kerala sunyala* This process consists of absolute suspension (*kevala sunyaka*) of breath and may, for the sake of guidance, be termed vacuum breathing. It is practised thus

¹ Conscious deep breathing is highly valuable for two purposes (a) to expand and develop the respiratory organs and (b) to aid circulation of blood. This is assisted by the movements of the chest walls and diaphragm during inspiration which create a partial vacuum in the chest cavity that draws air into the lungs and the blood towards the heart.

² The description of these practices is taken from *Amrtasandipaniśad* II 12, and *Īśvarasūtra* 75.

Yoga Methods of Breathing

Secure the siddhasana posture, as illustrated in Fig. 3, for the yoga breathing is performed most comfortably in a sitting position. Keep the body erect and take in a normal deep breath. When the inhalation is complete, exhale slowly and with ease. Make an effort to completely empty your lungs of the air-contents. Remember to throw the breath out in one long continuous and forceful rhythm. Keep on exhaling till the last volume of air is out. When this is done, draw the abdomen *in* towards the spine as in Figs. 8 and 20. Try to retain this position of the suspension of breath. *i.e.* do not either inhale or exhale. Stop doing any movement of breathing altogether. Keep this up for about fifteen to twenty seconds, then slowly begin to inhale until you get to the normal rhythm of breath. This exercise is considered extremely useful for weak stomach and sluggish colon and generally creates hunger and feeling of increased vigour. Repeat the process for ten to fifteen times once in a day, best followed in the morning¹.

(b) *Kerala purāṇa*. This process consists of absolute inspiration (*kerala purāṇa*) and may, for the sake of guidance, be termed the packing breath. Maintain the same position as secured in the previous exercise. After having completely emptied the lungs begin

¹ Those with weak hearts and females, especially during pregnancy, should avoid this method or if at all practised should try the same in moderation.

Care of the Respiratory Apparatus

slowly and rhythmically to inhale in one long continuous inspiration. Continue this till you feel a sense of fulness in your chest cavity. Remember to keep the abdomen *controlled* during the entire process of inhalation. Now without retaining the breath gradually exhale avoiding jerks or hasty movements, and repeat.

Concentrate your attention on the time taken during the period of inhalation. This should be prolonged, as far as possible, i.e. beginning from five seconds to ten or twenty seconds. The object is to lengthen the period of inhalation so as to allow of the maximum intake of air. This is best achieved by beginning the act of inspiration *slowly and peacefully*, taking enough time to complete the process, instead of drawing the breath in all at one time or within a short period¹. Practise this

¹ If you are in the habit of suddenly filling your lungs in a short time it is better first to acquire the habit of long inspiration through the ordinary system of picking breath.

Rest in any easy position or lie supine upon the floor. Completely empty the lungs and then slowly take a succession of little indrawing breaths as in panting. Do this consciously and with *rejoice* as if smelling some delicious odour *picking as it were one breath upon another without letting any air escape*. Continue this until the lungs are completely full and distended to their utmost capacity. Now retain the inhaled air for some time and exhale in one long gentle restful breath.

It may be observed that this breathing is very helpful to those who suffer from respiratory heart and stomach troubles.

Yoga Methods of Breathing

mode of absolute inspiration for ten to fifteen times a day

(c) *Kerala Iumbhaka* This process aims at mere retention (*kerala Iumbhaka* generally termed *Sahita Kumbhaka*) of breath, after the act of inspiration is successfully mastered. Thus, having taken in a deep breath, as suggested in the previous exercise, try to retain the inhaled air for a period of ten to twenty seconds, more preferably double the period of inspiration i.e. if the act of inspiration has occupied five seconds, the retention of air should be for a period of not less than ten seconds (and so on accordingly)

Do not, under ordinary circumstances, allow the abdominal muscles to relax but keep them controlled i.e. *compressed* and held in tension, during the entire process of breathing. Fig 24 illustrates the controlled abdomen during absolute retention of breath. It is also needful, during retention, to check even the slightest tendency to either inhale or exhale, and a passive state of "a bag full of air" be maintained. Then, after the due period of retention, in relative proportion as suggested before, begin to exhale slowly and repeat. For beginners, it is advisable that the process be followed for only five times a day and increased to twenty times gradually.

The effects of conscious retention of breath, after a
It forces open every disused air cell in the lungs and stimulates the sluggish ones to healthy action

Care of the Respiratory Apparatus

very deep inhalation, are quite marked upon, what are termed, the *diad space air* and also upon the *alveolar air*, facilitating complete ventilation due to

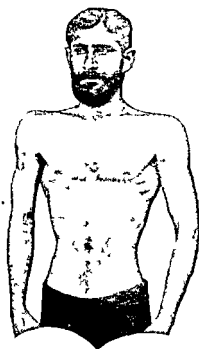


FIG 24

Compressed abdomen and expanded chest during retention of breath

favourable changes in the intra-thoracic and intra-pulmonic pressures Bernard and Mantoux have shown

Yoga Methods of Breathing

(Factor of Safety) that the possibility of increase in the depth of inspiration is nearly 400 to 500 per cent, and, that, after a very deep inspiration, the retention of breath, causing necessary increase in the amount of carbon dioxide, stimulates the respiratory centres to a considerable inter-change of oxygen during the *internal respiration* (in contrast with the reverse process which takes place in the lungs). This, according to Rosenau, also establishes the regulation of breath by a continuous rather than an irregular and interrupted function of respiratory movements. This is partly what the yogin aims at through the habit of conscious retention of breath¹

(d) *Kevala rekha* This practice consists of absolute exhalation (*kevala rekha*) Thus, having retained the breath, as shown in the previous exercise, try to exhale slowly in *one long continuous rhythm* The object of this exercise, as in the case of absolute inspiration, is to prolong the duration of exhalation This can only be achieved, by allowing the breath to escape in a *very slow and small measure*, much in advance of time i.e. before a forceful and hasty exhalation becomes a necessity. Try to adjust the time of both the inspi-

¹ Haldane and Priestly have shown that the regulation of breathing is largely dependent on the concentration of the carbon dioxide in the air cells of the lungs

Cf *Preventive Medicine and Hygiene*, by Dr M J Rosenau p. 794

Care of the Respiratory Apparatus

ration and retention in such a way as to leave enough margin of time for a complete and prolonged exhalation. The time necessary to complete such an act of either inhalation or exhalation should be *not less than* five to ten seconds for a man of an average constitution.

Various experiments conducted on forced expiration with compressed abdomen show that apart from the corresponding pressure changes a further quantity of air about 108 cubic inches or about 1728 c c (Hack) is expelled through deep exhalation besides the ventilation gained through normal expiration. Physiologists confirm that the air thus expelled by a forceful deep expiration consists of air from the alveoli. In the process of expiration above suggested, a larger volume of carbon dioxide is dismissed from the lungs than under normal exhalation.

(e) *Alternate Breathing*¹ It is a matter of general observation that every human being inhales and exhales for a certain period possibly an hour and a half or more through the right nostril and then all unconsciously changes to the left for a like period. The yogins believe that it is really the effort of Nature towards proper adjustment of the positive and negative influences of the breath. That a harmony produced by

¹ This process generally corresponds with the *suryabhadra* (also called *anuloma viloma*) *pranayama* described in the Hatha yoga works. Compare *Hatha yoga pradipika* II, 48-49.

Yoga Methods of Breathing

alternate breathing will considerably aid the general tone of the respiratory organs is easily realized. The special feature of all kinds of yoga breathing methods, therefore, consists in the alternate use of the right and the left nostrils.

Sitting in any easy posture, most preferably in the siddhasana pose, as illustrated in Fig 3, inhale deeply (as in kevala puraka) through the left nostril, closing the right one as in Fig 25 then, keeping it confined according to one's ability (as in kevala kumbhaka), expel the air slowly through the right nostril (closing the left one). Then, drawing in air through the right nostril, the lungs should be filled slowly as before, and after retaining the same for a like period (as in previous retention) it should be expelled (as in kevala recaka) through the left nostril. Inhaling thus through the one through which it was expelled and having



FIG 25

The best design for using fingers to close the nostrils alternately or both

Care of the Respiratory Apparatus

retained it there as long as possible, it should be exhaled through the other gently and deeply¹

It is necessary here to *caution* all students with reference to the technique of yoga breathing, especially with regard to time-measure that, the numerical proportion of duration in the three important processes of breathing viz, inhalation, retention and exhalation be regulated as 1 2 1 (Goraksa); i.e. the period of retention being double of the period of inspiration, and the period of expiration being of the same duration as the period of inspiration² This can be easily achieved by

¹ Thus the complete act of yoga breathing really consists of

1 *Suspension* or pause (before undertaking deep breathing) 2 *inhalation* (through the right nostril) 3 *retention* 4 *exhalation* (through the left nostril) 5 *inhalation* (also through the left nostril immediately following the previous deep exhalation through the same nostril) 6 *retention* 7 *exhalation* (through the right nostril) and 8 *suspension* or pause (before undertaking another round of pranayama)

² The relative time taken by each act varies with individuals but at the lowest estimate the same can be adjusted somewhat on the following basis

1 *Suspension* (2 seconds) 2 *inhalation* through the right nostril (2 seconds) 3 *retention* (4 seconds) 4 *expiration* through the left nostril (2 seconds) 5 *inhalation* through the left nostril (2 seconds) 6 *retention* (4 seconds) 7 *exhalation* through the right nostril (2 seconds) and 8 *suspension* (2 seconds) The total time thus required for one round of complete yoga breathing is 20 seconds or three breaths per minute

Deep Breathing Vs. Yoga Breathing

following mental counts or, for accuracy, the use of a watch is quite convenient

Deep Breathing Vs. Yoga Breathing

§b It may be observed that the deep breathing as taught by the Westerners differs largely both in its mode of operation as also its ultimate significance from the processes taught by practical Yoga. Even from the few simple exercises cited above, it becomes evident that the yoga breathing offers more favourable conditions for deeper inspirations and expirations than the ordinary deep breathing taught by the modern students of physical culture etc.

Among the many important considerations relative to the respiratory functions, however, those which have a very great influence upon the whole of human economy are as follows

- (a) Absorption of Oxygen,
- (b) Removal of Carbon dioxide
- (c) Neutralization or rhythm of movements
- (d) Volume of arterialised blood,
- (e) Sedative Nervous effects
- (f) Conservation of Prana and Longevity¹

The author of *Glenn's method* (V 40-41) maintains that the ratio of 1 : 2 (instead of 1 : 1) be kept up with regard to time unit during inhalation-retention and exhalation

1 These issues we discussed here superficially for the very simple reason that they add bulk and are also not within the

Care of the Respiratory Apparatus

(a) *Absorption of Oxygen* The purpose of breathing exercises from the hygienic point of view alone, is to absorb the maximum amount of oxygen with the *minimum* amount of physical efforts. The controlled abdomen which becomes a necessity during the process of yoga breathing¹ (contrary to the ordinary deep breathing practised with protracted abdomen) contributes greatly towards a large intake of air. Hermann Weber assures us that through deep inspirations a remarkable improvement in the heart's nutrition and action is caused, besides the nutrition and efficiency of the lungs themselves which undergo in old age a kind of atrophy. He further observes that the depth of inspiration is considerably improved by keeping the abdominal muscles controlled, during the process of "inhalation". This statement is substantially corroborated

limits of this work. For technical details and reference to actual experiments conducted to substantiate all statements appearing in this section, however, see *Yoga Breathing Methods* Vol. VI (awaiting publication).

¹ Cf. *Hatha Yoga Pradipika* with *Jyotir* I, II, 40.

² I have already alluded to the additional advantage of compression of the abdomen during inhalation, and now further point out that the action of the serous membranes, the pleura, the pericardium and the peritoneum are beneficially influenced by the deep respiratory movement; they constitute a kind of massage to the lungs, the thoracic walls, pericardium and heart (See Fowler Branton) *British Medical Journal* 1903.

Deep Breathing Vs Yoga Breathing

by recent experiments on intra thoracic, intra pulmonic, intra œsophageal and intra abdominal pressures during yoga breathing (Kavalayananda)¹

Moreover, during ordinary deep breathing (generally recommended or followed with hard exercise of one type or another), the oxygen use runs *beyond* the power of the respiratory and circulatory organs. This *oxygen debt*² overbalances the good that may be derived out of deep breathing, or, even if performed in moderation, does not usually produce the necessary healthful effects upon the respiratory organs. In the yoga breathing, however, the restful pose and attitude of mind (devoid of any physical movements) cause no oxygen debt, but on the contrary, the large intake of atmospheric air (still richer in oxygen) keeps the alveoli fully saturated with a reserve of 20 per cent. oxygen.

¹ The deeper the inspiration the greater is the fall in the intra thoracic pressure. Western physiologists have recorded this fall to be about 30 mm. of mercury. We have reason to believe that in the present experiment the intra thoracic pressure must have fallen by something more than 30 mm. Hg. because generally the fall in the intra thoracic pressure is *much greater* than the fall in the intra œsophageal pressure which in this experiment is as much as 21.2 mm. So we see that the Yogic inspiration is much deeper than the ordinary deep inspiration studied by the Western physiologists.

Yoga Mis misst Vol IV p 20

² Compare A. V. Hill and H. Lupton *Q. J. M. Sci.* 1923 p. 13.

Care of the Respiratory Apparatus

in other words, about 4 per cent of extra oxygen above the normal average which is 16 per cent automatically maintained in the alveolar air (Rosenau)

These facts go to prove conclusively that the yoga technique of breathing is physiologically quite sound and far superior to the ordinary deep breathing, so far as the oxygen value is concerned

(b) *Removal of Carbon dioxide* We are told by Haldane, Vierordt, Speck and others that the amount of air ordinarily exchanged in each act of breathing (tidal air) is not sufficient to completely empty the lungs of their contents. That a certain amount of air always remains constant in the air cells of the lungs and that this residual air, as it is called, is *not* emptied by the air cells even during the efforts of deepest expiration. The process of retention (as in kumbhaka), however, makes the concentration of carbon dioxide possible in the air cells of the lungs—a condition so necessary for proper ventilation in the alveolar air. This retention when followed by forced expiration, as previously explained (through kevala recaka), removes a very large amount of carbon dioxide from the air-cells, and the deep inspiration immediately following offers an abundant supply of atmospheric air thus causing change in the volume and composition of the residual air.

Again the conditions which encourage a large output of carbon dioxide viz exercise, mental labour, etc being absent during the process of yoga breathing, the

Deep Breathing Vs Yoga Breathing

amount of carbon dioxide (in a given time) is lessened, thus tending to prolonged respirations which diminish the waste of body and give tone to the respiratory organs (Paul)

It is evident therefore, that during yoga breathing the output of carbon dioxide is greatly reduced, respirations are prolonged and the concentration and amount of carbon dioxide so affected as to facilitate its removal more effectively than is possible through the ordinary deep breathing exercises¹

(c) *Neutralization of Rhythm of Movements*
One of the objects of yoga breathing is to produce harmony and regulation in the respiratory movements by alternate breathing. This, of course is not achieved by the ordinary methods of deep breathing.

It is believed by the yogins that there are two sets of nervous influences which cause and control respiration². The one which is called positive is produced due to solar (*surya*) influence and breathing through

¹ Of greater importance nevertheless is the study of this subject in light of various pressure changes affected through higher yoga breathing processes with the closed *rima glottis* for obvious reasons the discussion of such a subject is not possible within the scope of this work.

² This should not be confounded with the positive and negative ventilation interpreted by Head and supposed to be due to two sets of fibres in the vagus. *Handbook of Physiology* by W D Halliburton M D 1923 p. 433-434

Cure of the Respiratory Apparatus

the right nostril; whereas the negative activity is produced by lunar (*candra*) influence from breathing through the left nostril¹.

It is further maintained that, by means of these two currents, all life-activities are sustained and it is an imperative condition of health that they should be equally balanced². The yoga method of alternate breathing, in contrast with the ordinary deep breathing,

¹ 'It is of interest here to state that early in 1900 the newspapers chronicled the successful experiments of Dr Atkins, of the California Medical College, who had discovered and succeeded in registering by *mechanical means*, 'a positive and a negative electrical current in the air chambers of the lungs of a living person'. Cf. *The Law of the Rhythmic Breath*, by E. A. Fletcher, p. 13

Dr Lindlahr further enlightens us on this subject. He observes that "The breath entering through the right nostril creates *positive* electro magnetic currents, which pass down the right side of the spine, while the breath entering through the left nostril sends *negative* electro magnetic currents down the left side of the spine. These currents are transmitted by way of the nerve-centres or ganglia of the sympathetic nervous system, which is situated alongside of the spinal column, to all parts of the body."

Compare, *Natural Therapeutics*, Vol. II, by Henry Lindlahr, M. D., p. 189

² *Hakārāḥ kirtatāḥ saṁyastalāraṁ andhā nyate,*
Sāmyacandhamasau yogāt hathayogonyudgate.

Sūktasādhāntapaddhati (MS.)

Deep Breathing Vs. Yoga Breathing

neutralizes and produces harmony within the passages and regulates the breathing movements¹

(d) *Volume of Arterialised Blood* Due to favourable pressure changes during yoga breathing—the changes which remain unaltered in the ordinary deep breathing, whatever the nature of depth be, a very large volume of blood is arterialised with each respiration²

¹ Drs. Irving Fisher and Eugene Fisk of the Hygiene Reference Board of the Life Extension Institute of New York speak very highly of this particular type of yoga breathing. They remark: "A certain Oriental deep-breathing exercise is particularly valuable to insure slowness and evenness of the breath. It consists of pressing a finger on the side of the nose so as to close one nostril breathing in through the other nostril breathing out of the first nostril in the same manner and then reversing the process."

Attention to the slight sound of the air as it passes through one open nostril enables the breather to know whether the breathing is regular or slightly irregular. Such breathing exercises can be taken at the rate of three breaths per minute and the rate gradually reduced until it is only two or even less per minute. Compare *How to Live* p. 26.

² Careful experiments and analysis of yoga breathing have revealed that the right auricle itself being under a negative pressure becomes more than usually distended during inspiration and is thus capable of admitting larger quantities of blood than ordinarily. *This larger quantity* is then poured into the right ventricle and from there is pushed into the lungs. The pulmonary veins drain *this large quantity* from the lungs because of the lower intra-thoracic pressure and the left auricle

Care of the Respiratory Apparatus

Moreover, Dr Howard maintains that, "More breathing, deep breathing just to develop a big chest capacity is *valueless* unless the inhaled air can reach everywhere—every tiny cell in the body."¹ It means that unless deep breathing is followed with general increase in blood circulation there is however little chance of deriving the utmost physiological benefit therefrom.

The health of the body as is generally recognized depends mostly upon the amount and quality of blood circulating throughout the system. In the yoga breathing, however due to favourable co ordination between the positive and negative pressures in the intra thoracic cavity, the blood circulation is likewise improved both in quantity and quality even without the aid of muscular exercise² which generally involves considerable waste of body

(c) *Sedative Venous Effects* Deep breathing collects it all because of its lowest internal pressure. Then the left auricle sends *this whole lot of stuff* into the left ventricle which in its turn finally pushes it to the different parts of the system through the aorta and its branches. See *Lost Universe* Vol IV 160 C1

¹ Cf *Breathe and Be Well* by Dr W. L. Howard pp 92 &

² That this is possible is admitted by modern physiologists. Thus The fall of intra thoracic pressure has a favourable influence on the flow of blood from the extra thoracic veins into the intra thoracic veins the right side of the heart and the cardio-pulmonic vessels. The flow of lymph from the lower portion of the thoracic duct into the upper portion is also

Deep Breathing Vs Yoga Breathing

which was originally confined to and associated with the process of concentration (during the period of earlier Upanishads, about 700 B C) was later introduced by the practical yoga masters (Goraksa and Matsyendra, approximately between 70 B C to 78 A D)¹ as a hygienic measure and a preventive against a number of diseases.

Practical Yoga therefore, lays great stress upon the value of deep breathing especially with regard to its nervous influence² (as an aid to mental and spiritual culture) rather than its healthful physiological effects promoting longevity. Thus, apart from its benefits to the body, deep alternate rhythmic yoga breathing has also its psychological value. That there should be some affinity between mental activities and respiration seems quite natural when we realize that with every breath we take the brain celebrates unconsciously and

increased. (Compare *History of Physiology* by A. P. Brulaker A. M. M. D. p. 127)

¹ Cf. *History of Practice of Yoga* by Shri Yogenji Vol. I (vi)

² That a decided nervous relation (in form of simultaneous and co-ordinated activity of both the respiratory muscles and nerve-centres, affecting *vice versa*) exists between the brain and the lungs is now acknowledged by the modern scientists and further that a corresponding rhythm may be established in the nervous system through the regulation of the respiratory acts. See Halliburton's *Handbook of Physiology* pp. 308, 309 ff.

Care of the Respiratory Apparatus

involuntarily Few people know and fewer still care to know that every change of mental state is accompanied with a corresponding change in the volume force and rhythm of respiration but such continual interaction between the brain and the lungs is an undisputable fact

• These sympathetic relations between breath and mind are so distinct that, under certain conditions they produce very remarkable phenomena Stebbins remarks in *Harmonic Gymnastics* (p 14) that "It is quite possible for the brain to be engaged in the most intense molecular action and the mind occupied in solving the problems of creation *without* the lungs responding to such emotion and thought and sinking to their minimum action, but this can only be accomplished by skilful training In other words, in a perfectly natural state the respirations will beat time so to say with the depth of thought or power of the emotion dominating the brain When the thought vibrations awaken into action the higher intellectual powers of the mind the respirations sink lower and become slower and slower until in the ecstatic state of abstraction we almost cease to breathe"

During other mental states or emotions e g despair, hope, anger, hate, etc, the respiratory movements vary in such rhythm as to produce an equipoise of force It is easy for an expert psychologist to tell you the state of your mind from the state of your respi

Deep Breathing Vs. Yoga Breathing

ation, just as the skilled physician is able to delineate your physical ailments by feeling your pulse. This knowledge of interaction between the brain and breath has been the common property of all ages and on this foundation a number of rhythmic processes of respiration have been invented by the ancient self-culture enthusiasts (the yogins) who hoped to attain the peace of mind by regulating their breathing movements¹

Whatever the spiritual claims be one thing nevertheless is true that the habit of deep prolonged rhythmic breathing in course of time, establishes a corresponding state of mental equipoise and this saves much of the dynamic nerve force wasted during mental excitements nervousness or confusions. Prolonged deep breathing thus works as a great nerve tonic and ensures the health of both the body and mind.

But as the sedative nervous effects of breath depend more upon the prolonged and restful respiratory acts rather than mere deep breathing it is easy to discriminate between the relative nerve values of the active ordinary deep breathing (about 6 breaths per minute) in contrast with a complete round of yoga rhythmic breathing (about one breath per minute). Thus, it is not without reason that in the East the yogins in order to secure nervous quietude and mental poise took to particular types of breathing much

¹ Cf. *Hatha yoga prapancha* with *Iyoga* at IV 27 28 ff

different to those known to the Westerners as breathing exercises

(f) *Conservation of Prana and Longevity* It is extremely regrettable that the word 'prāṇa' frequently and persistently used in all the Sanskrit works and especially in those on Yoga has not been sufficiently understood or interpreted by Oriental scholars and students of practical Yoga.¹

The real interpretation to put it broadly, is this²

¹ Even such a staunch and zealous exponent of scientific Yoga as Śrīmat Kṛṣṇānanda has overlooked this an important subject and interpreted the word 'prāṇa' as 'breath' (or if stretched further may at the most agree to prefer the use of the word 'oxygen'). Cf. *Yoga Mīmāṃsā* Vol. III in iv pp. 258-259 ff.

² I had the pleasure of discussing the root meaning of the word 'prāṇa' with Prof. Surendranath Dasgupta of international reputation in Indian Philosophy. In order to be precise in our conceptions we went through nearly all the important works in Sanskrit and jointly took down notes on this subject. We are convinced that the word 'prāṇa' is best understood by the physiological term 'biomotor force'. This interpretation is thus based upon the essentials of our study.

The use of the word 'prāṇa' however in certain practical Yoga works only at few places meaning 'breath' should not misguide a careful student for it is merely an indication of the various uses to which the word has been subjected and this particular representation (as 'breath') is only the grosser form of its activities. It must, therefore, be made clear that 'prāṇa' according to the practical Yoga terminology

Deep Breathing Vs Yoga Breathing

In the human body, it (prana) pervades the entire being, and life is sustained exclusively (*prāṇīti*) because of it¹. In this capacity, it is supposed to uphold the body by keeping together the various mind and body substances in harmony through its manifold activities. The physiologist generally refers to this prana as the life energy (Scott), and the biologist calls it the bio motor force (Hückel). The expression "flying energy in the body" of the modern scientist (Stiles) exactly corroborates the words '*capalaspada*' of the ancient sages used with reference to the micro-cosmic prana.

The specific function of this prana is motion and because it moves, it is called prana (*prayānam kramate iti pranah*²). Thus it is the prana which operates in the sperm or *sulva* and the ovum or *seta* for if the prana had not worked at the time of conception, the embryo would not have developed or ultimately would not have led to the production of a child³.

It is further observed that this prana performs its functions, in the human body, only when it is nourished with food, water, light, air, etc⁴. Thus we see

does not really mean 'breath' but means *most certainly* the bio motor force pervading the entire body.

¹ See *Caraka Samhita* (Sūtras) I, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

² Compare *Satcakra Saṁhitā* p. 118

³ *Brahmasūtra* with *Saṁkhya* II, 14, 8

⁴ Cf. *Mūla Sūtra* VI, 12, *Tattva* I, 3

Care of the Respiratory Apparatus

told that when the food is taken, the air is inhaled, or the water is drunk, its fine essence becomes transformed into prana for it is both the cause and effect of them¹

That the knowledge of this prana, its activities and control was a great advantage to the yogins can hardly be denied, when it is realized that the modern science pleads its ignorance and inability to fathom its mystery. Stebbins confirming this fact remarks, 'that there has been a *something* extracted from the atmosphere *besides* the oxygen which is supposed to be the real basis of life, a something which *science at present knows little or nothing about*, and which, consequently, *she cannot explain*'²

¹ Compare *Chandogya Upanishad* VI v 2 | I viii 4, *Taittiriya Upanishad* I v 3. *Mahabharata Upanishad* I 23 also *Caraka Samhita* (sutrasthanam) xxvii

² All that the most able experimenters have as yet been able to ascertain is that an *incontrovertible undefinable* change has taken place in the air which we have respired. This truth has been fully illustrated in the careful experiments of Dr B W Richardson by which it was demonstrated that the air which has been respired loses its life supporting quality independent of any change by loss of oxygen or acquisition of carbonic acid. That there is a recognized *something* necessary for the support of life besides the physical equivalents known to chemistry is a scientific fact, and in this respect Dr Joseph Rhodes Buchanan in his *Therapeutic Sarcogenomy* very truly remarks 'That the life supporting quality of the atmosphere'

A Remarkable Testimony

The yogins, however, maintain that through certain types of deep breathing exercises, the general tone and vitality of the body is considerably increased (to be sure, through the conservation of prana) and further, that this reserve vitality stands as a great preventive against disease dangers and thus prolongs life¹

A Remarkable Testimony

§ 7. Case No 2006 Among the large number of patients treated for respiratory troubles by the author, both in India and America, through the yoga methods of breathing (combined largely with such rational treatments as the sun, air and steam baths massage, hydrotherapy, diet, etc), the one that stands out boldly as a remarkable testimony to the curative effects of yoga

is continually varied is certain *there being some element in it which chemists have not yet detected* This peculiar something which constitutes the life-quality and which careful experiments demonstrate to be missing in air that has been respired is the next grand problem that awaits the solution of science What then is it?

Cf *Dynami Breathing* by Genevieve Stebbins pp 41 50 ff

¹ It is interesting here to point out that according to the yogins whatever prolongs the interval between two breaths (kumbhika) promotes longevity Dr Paul observes that from the above analysis of the fore mentioned long lived individuals it appears that they respired less than six times per minute (the normal being 16 times per minute) See *A Treatise on the Yogic Philosophy* by N C Paul G B M C p 7

Care of the Respiratory Apparatus

breathing is the case of Mr Lewis B McSorely of Philadelphia¹ .

When the patient (Mr McSorely) was admitted for treatment, he had very little hope of recovery. Having failed to secure relief through the usual methods of treatment and drugs known to modern science, he subjected himself to the yoga treatment at the request of Mr and Mrs Perkins of Germantown (who already underwent the yoga treatment for their individual ailments). He was found suffering from asthma for the past number of years and the condition of the disease was so far advanced that its malignant and violent character had taken absolute possession of him and reduced him to a mere skeleton. The spasmodic attacks (especially after the sun-set) were so severe that it practically became impossible for him even to breathe (accompanied, of course, by a convulsive state of the muscular fibres in the smaller bronchial tubes). Sleeping on the back or practically in any lying-down position was impossible, and, the patient had to rest even during the whole night, in a sitting position (leaning against a chair). The sleep he thus gained was of a very short duration i. e. only about two hours between 1 A. M. and 3 A. M., when he was usually awakened by a severe attack continuing, sometimes over a period of an hour or so. During the night, he

¹ He was and is the Chief Chemist of the Government (U. S. A.) Laboratory at Philadelphia.

A Remarkable Testimony

had recourse only to hypodermic injections (administered by himself) which were followed quite frequently to avoid suffocation i.e. ranging from two to four injections in eight hours (night)

Needless to enter into the details of actual treatment suffice it to mention here that, in course of a week, the patient was able to use his bed, instead of a chair, for sleeping which he did not have the good fortune to do for the past three years and enjoyed undisturbed rest for two to three hours. After this, he improved very rapidly under the yoga regimen and was allowed to return to his home after three weeks where he religiously followed the yoga practices taught to him and regained his normal condition, in course of six months.

He observes, after three years of steady improvement, in a personal letter to the author, dated September 8th 1925 that .

It is good to be able to tell you that I have had no trouble with asthma of late. In my case it seems essential to build up my general health and strength. It is noticeable that when I rest a great deal and take things easy I have no trouble but if I tire myself unduly then I am apt to have asthmatic attacks. I still keep up the (yogi) exercises every morning and believe they are most helpful also. I rarely if ever eat meat have no taste for it any more. I am delighted to know that your health remains good and hope it always will.

The Hygienic Time Table (Section VI)

§ 8 The following table shows the approximate

Care of the Respiratory Apparatus

time required for the performance of various breathing exercises and the frequency with which they should be attended

Organ	Yoga method	Frequency	Time
The Lungs	<i>Kerali sanjak</i>	morning and evening	2 minutes
	<i>ja uk</i>		
	<i>Le n blak</i>	morning only	
	<i>re nka</i>	morning and evening	
	<i>An don aul n</i>		5

Great care has to be taken to avoid any possible strain or tendency to suffocation, by overdoing any particular breathing movement, as the respiratory organs are very susceptible to local injury. During all the exercises, moreover, the mind should be kept steady by efforts at concentration on any part of the body or an object as this insures better results

CHAPTER IX

CARE OF THE SEXUAL ORGANS

Through continence vigour is obtained

Yogasutra II 38

Life is prolonged indeed, by the preservation
of internal secretions of the sex glands
(*br du*)

Suksamhita IV 88

IT is extremely regrettable that a subject of such grave and complex importance as the sex hygiene, which really transcends the limited sphere of physiology viz reproductive organs, and, on which depends largely the spiritual mental, moral and general health of man, has not been sufficiently emphasized to warrant serious attention. There, however, is no *one single* human instinct that wields such a great influence upon an individual, in all capacities and at all times, as does sex, and, it is, therefore, essential that its manifold characteristics be positively understood in order that its hygiene may be thoroughly appreciated.

Sexual Instinct

§ 1 Besides the two cardinal principles of motion and nutrition every living cell or aggregation of cells

Care of the Sexual Organs

possess also a capacity for reproduction, and the sexual sense and organs on which this entire process depends thus touches the very foundations of life

The preservation of self is universally regarded as the strongest human instinct and is often alluded to as the "first law of Nature" That there exists an equally important—in some respects, even of primary importance—*instinct of self-propagation* can hardly be denied. This, more or less, closely allied and intimately co-existing principle of life consists in the desire to prolong or perpetuate self in species which is manifested by sexuality or the sex sense.

It may sound theoretically, morally or aesthetically unpleasant but it has since long been found to be practically true that there can be passion without love but there can be no love without passion. Sex is the central fact of life for it is an ever-present stimulus. It is the animating impulse of all organic life which underlies the struggle for existence in the animal world Malchow boldly asserts that "It may be said of humanity that if it lives for any one purpose more than another, that purpose is *sexual*"¹

Psycho-analytic Approach to Sex

§ 2. Within the past twenty years, especially after Prof. Sigmund Freud published his work² on sexuality

¹ Cf. *The Sexual Life* by C W Malchow, M D p 196

² *Die Abhandlungen zur Sexualtheorie*, Leipzig and Wien 1903

Psycho-analytic Approach to Sex

in human beings, the conceptions of sex have undergone radical changes. The words "sexual" or "sex" (*libido*)¹ are utilized and elaborated by the followers of Freudian doctrines in their very broad sense with a more general and less specific meaning than is conveyed by the usual connotation of limiting it to the reproductive faculty.

According to the Freudian theory of sex, it is believed that besides the conscious mind, there is an unconscious (better expressed by the word "sub-conscious") mind denoting all mental processes of which we are not aware. Psycho analysis, however, undertakes to explore the study of the so called unconscious mind, especially by establishing its relation to consciousness².

Freud maintains that sex is born with us for it covers the entire sphere of the primary biological pleasure-principle and manifests itself through all stages of life and at all times³.

¹ Other names such as *elan vital* (Bergson) *horne* (Jung) *crucial* (Putnam) etc. have been proposed but the word *libido* is used here to express the terminology of Freud.

² It is the function of psycho analysis to bring to consciousness the processes that are normally *inutilable for consciousness*. Compare *Psycho Analysis* by W J Fielding p 13.

³ Dr Alfred Adler of Vienna, however, considers the three fundamental views of the Freudian sex theory as 'erroneous' and offers his theory of masculine (*Masculinen*) protest as the guiding principle in human life. See *The Neutrotic Constitution* by Dr Alfred Adler p ix.

Care of the Sexual Organs

According to these new viewpoints, in contrast with the older attitude of fear and superficial explanations it is now possible to realize (by way of scientific interpretation) the importance of sexual hygiene governing, as it does not only the sphere of reproductive organs but also the health of both the unconscious and the conscious mind

Cultural Effects of Sex

§ 1 In case of the human beings, thus, the sexual instinct and its expressions have a very far reaching and decided influence upon the (a) spiritual, (b) moral, (c) mental and (d) physical growth of an individual. These influences of sex extend in mysterious ways that as yet we do not understand¹. Hartley, emphasizing this fact, observes 'For in sex we have as yet learnt very little, and I doubt sometimes if we can ever learn very much, except each one of us for ourselves out of our own experience. The sex emotions are among the deepest, if not the deepest of our nature: they exercise an influence on every phase of development, and, in one form or another, direct the entire being of the individual.'²

¹ Finally we must remember that our knowledge of sex is quite incomplete. Our ignorance (in sex matters) is abysmal.

Cf *Preculture Medicine and Hygiene* by M. J. Rosenberg M.D. p. 88

² Cf *Motherhood and Relationships of the Sexes* by C. G. Hartley pp. 326-327

Cultural Effect of Sex

(a) *Spiritual* It has been maintained, during all ages and by all classes of spiritually minded people in all countries that spiritual evolution is not possible except through purity in sex matters. All the systems of soul-culture therefore either Indian or non Indian (Buddh) consider the control of sex desire as an essential requisite which is rigidly enforced upon the would be students of spiritual life. The results obtained (e.g. the spiritual evolution or unfoldment and attainments claimed by the followers) may principally be ascribed to the sense of elevation and security aided by concentration and conservation of sex energy and absence of emotions ultimately leading to an abstract or negative influence upon the psychic environments of an individual.

(b) *Moral* The moral influence of sex, of course is evident in the ages old social institutions and marriage rites and the imposition of certain moral laws concerning the sex matters and relations. Even among the wild tribes the slightest transgression of this particular organic function (sex gratification) except under fixed conditions including certain rights granted by the society causes great commotion and is generally looked upon with intolerance.

In the individual the idea of 'evil' and inferiority so closely associated with sex desire and its abuse imbibed through superficial but constant propaganda from the moral teachers exerts a very marked

Care of the Sexual Organs

influence upon his moral character and social traits generally.

(c) *Mental*. "The sexual sense and its development is a far greater causative factor in the production of mental states than is commonly supposed"¹ It is undoubted, though hardly observed or fully realized and appreciated, that sexual problems become translated, in many cases, into mental problems²

This principle (the relationship of sex to mind) was thoroughly recognized by the ancient students of psychology in India, and the movement for purity in sex and continence (*brahmacharya*), thus, was principally based upon this hypothesis. Freud, Janet, Kisch, Fowler, Havelock Ellis and other investigators in the field of sexual science, however, have lately attempted to prove the same old empiric belief as correct, through scientific and valid reasons. Even though varied in certain details, their conclusions point to a general agreement that the causes of mental aberrations viz. neuroses and psychoses are, to a very large degree, remotely or nearly allied to or influenced by the sex-impulses. And further, that the health of mind is dependent upon the health of sex organs (impulses and other connecting agents inclusive).

(d) *Physical*. The physiological value of sex instinct

¹ Cf. *The Sexual Life*, by Dr. C. W. Malchow, p. 34

² Cf. *Mental Hygiene* by Abraham Myerson M.D., p. 447

Evils of Ignorance in Sex Matters

and sex hygiene is self-evident, reassured, of course, by our everyday observations, during the growth of a boy into a man and a girl into a woman. It has been, fortunately, observed and emphasized by physiologists of such eminence as Lipschutz, Halliburton and others that the removal of sex-endocrine glands (in either sex) has a very deleterious influence upon the mental and physical growth of an individual¹ White, Kempf and others supply us an elaborate list of the large number of diseases (other than sexual) that arise solely due to derangements in sexual organs².

Evils of Ignorance in Sex Matters

§4. The dangers of ignorance, or of sudden, and too late knowledge in sex matters, are very great and, possibly, more prevalent than commonly supposed. They may be roughly classified as those that exert their evil influence (a) before and after puberty, and (b) during the married life

¹ Castration in early life as in the case of eunuchs results in a loss of the internal secretion (both the testes and ovaries produce hormones) and a failure in development of the secondary sexual characters which distinguish the male and female (both physically and mentally) Cf *Preventive Medicine and Hygiene*, by Dr M J Rosenau p 85

² Compare *Principles of Mental Hygiene* by W A White M D also *The Autonomic Functions and Personality*, by Dr E J Kempf

Care of the Sexual Organs

(a) *Before and after Puberty* It is now a well established truism to say that the most injurious influences affecting the physical and mental condition of young children arise mainly from ignorance of and misdirected sex impulses¹. The two of the worst dangers into which it is possible for every young man and girl to fall due largely to absence of or improper advice in sex sense are (i) the artificial stimulation of the reproductive organs, and (ii) the acquisition of degraded ideas on the subject of sex.

(i) Of these two evils, self abuse quite common among both the sexes² produces manifold and disastrous results which, most certainly, could be prevented by timely advice and necessary information on the subject of sex.

(ii) But the degraded ideas acquired, during the stages of ignorance (for want of proper knowledge of sex matters are more vicious than even the physical sustained through self abuse which in later years to some extent and in many cases overcome. They therefore have a life long influence upon the men-

¹ See *Illustrations of the Hygiene* in Annual Report 1914 of the Chief Medical Officer of the Board of Education (Cd 8055 London)

² Among those who are of the opinion that women resort to solitary practices with greater frequency than men mentioned Morris Pouillet Næcke Moragha and others. Cf *The Sexual Life* by Dr C W Malchow p 77

Causes of Ignorance in Sex Matters

and physical behaviour of an individual and develop unconsciously into sexual perversions and inversions viz homosexuality, sadism, masochism etc and, at times progress beyond that by reducing the unfortunate victim to a state of moral and physical wreck

(b) *During the Married Life* The miseries of married life are multiplied by the perverted psychosexual tendencies and ignorance in respect of the proper functions (the uses and abuses) of the genitive organs. Unhygienic sexual relations during the married life have the same physiological and psychic disadvantages as are common to masturbation. Venereal diseases from which approximately more than one fifth of the adult population suffers (Biggs) have their origin in unclean sexual life. Such relationships whether within the marriage bonds or outside them do not alter the position so far as suffering is concerned for a marriage is no safeguard against disease or ignorance. Impotence and insanity are again the extreme but usual results of ignorance in sex matters besides a large number of diseases both physical and mental that might well be ascribed to unhygienic sexual relations.

Usually the sexual relationships outside of marriage tend to intensify the evil consequences of neglect and breed weakness, irresponsibility, anxiety and their attendant consequences. Both the home and the society suffer and participate in the untold amount of

Care of the Sexual Organs

misery and premature deaths, all due to a preventable cause viz ignorance in sex matters

The pinch of ignorance, however, is most alarming and disastrous for a woman more than a man during all sexual acts (and especially during the period pregnancy) as the responsibilities of motherhood a physiologically most exacting

Sex Education

§ 5 Chief among the causes that present difficulties, in freely imparting the knowledge upon sex matters, may be counted religious and ethical hypocrisy¹ As a consequence, sex subjects are usually viewed either with false sentiment or vulgarity. Such shameful concealments, however, do not lead to purity in sexual life. On the contrary, the bad influences become more painful and deeply rooted than would otherwise be if sex education was made available to those who most need it. Especially, in regard to sex education, the old-style innocence, false modesty pretences should be discarded as sinful ignorance, the earliest opportunity, and the sex subject should be discussed most frankly and truthfully.

¹ We ourselves are shame faced because we are still save in sex. If not why this awe and funk these taboos : mysteries all the secretive cunning with which we hide from the young facts that we all know but pretend that we do not know. Cf *Motherhood and the Relationships of the Sexes* by G. Huxley p 327

Sex Education

At present, we have only two alternatives, that is, either (i) to leave the young to their own fate to pick up information from vulgar and unclean mounds, or (ii) to give it ourselves in such rational manners as to impress it with healthful thoughts

One thing, nevertheless, is clear, and on which there is a general agreement among all classes of hygienically-inclined people, that sex education is necessary for a healthy living. Emphasizing the need for such education in sex hygiene, Dr. Rosenau observes that, "Every boy and girl, *before reaching the age of puberty*, should have a knowledge of sex, and every man and woman before the marriageable age should be informed on the subject of reproduction and the dangers of venereal diseases. Superficial information is not true education"¹

Instruction in sex hygiene may be imparted through three principal avenues, namely, (a) in the school, (b) at the home, and (c) by literature

(a) *In the School* As Boutroux maintains, "Education, in its true and complete meaning, is not the acquisition of any particular habit or knowledge, but rather the cultivation of the human being, with all his physical, intellectual and moral powers"² This object

¹ See *Preventive Medicine and Hygiene* by Dr. Rosenau p. 80

² Cf. *Education and Ethics* E. Boutroux (Member of the Academy) p. ix

Care of the Sexual Organs

of education could not, however, be possibly achieved by ignoring the very existence of an instinct and an organic function so dominating and powerful as sex.

It is really deplorable therefore, that both the boys and girls in our schools are trained to become secretive about themselves treating their special sexual functions as a mystery and shame. And the greatest folly of the modern educational system, undoubtedly, lies in the fact that, at all times, we continue to educate boys and girls as if they were sexless neuters, when human nature keeps asserting that they *are not*.

Who should impart the sex knowledge? As the success of instruction depends largely upon personality, knowledge and confidence, it is essential that the person to impart the information should have impressive personality, thorough knowledge of the subject and absolute reliance of his students.

At what age should the knowledge on sex be disclosed? The information should vary, according to the ages and sex (girl or boy), and should be given out gradually according to the need of an individual. There however, can be no fixed age limit for such a purpose i.e. the period at which the sex education could be best imparted for it entirely depends upon the awakening of sex consciousness in the young mind that varies with each individual¹.

¹ It has been reported quoting authentic resources and testimonials by Prof Fowler that even the girls and boys

Sex Education

What should be the nature of instructions? The sex instructions, again, should be individual rather than collective and no general principle can be laid down as to the details and manner in which the subject should be handled. It all depends upon the individual need and circumstances. The following suggestions will, however, be found useful to guide the teachers.

In the young children, between the age of four to seven years, the curiosity for the knowledge of maternity, how and why of birth etc. is very keen, and it is advisable to answer their questions with all possible frankness just enough to rightly satisfy their wholesome inquiries. No specific information on the subject of sex should be offered to them, at this stage.

The growing child reaching the age of puberty, however, should be informed of the unnatural habits, avoided by the study of physiology, biology, etc. The rewards of strength and virtue, especially in respect of sex hygiene, should be emphasized, rather than the dangers of weakness and vice. The young student,

(between the ages of six and eight years) have known *all about* the practice of masturbation and understood the language used to describe it. Dr Woodward of the Worcester Lunatic Asylum remarks that those who think that information on this subject (sex) is unnecessary are hardly aware *how extensive* & *how early* this habit is sometimes practised.

O S Fowler p 80

Care of the Sexual Organs

between the age of eight to fourteen years, should be further cautioned with great seriousness, to avoid trifling or handling of his or her external genitals reminding him or her of the consequences which may impair his or her intellectual and physical growth, thus affecting their bright and promising future.

At about the age of fourteen or sixteen years, boys as well as girls should be fairly well acquainted with the physiological functions of the sexual organs and their specific purpose¹. They should also be enlightened and cautioned against the venereal peril, emphasizing its evil effects upon their respective partners (would-be) and the future offspring.

Indeed, great care need to be exercised, while imparting such a knowledge to the young generation. At any time, no such suggestions that may likely excite their morbid curiosity should be offered unnecessarily for that may do more harm than good.

¹ Some of the facts all young men and women should know are that the true purpose of the sex function is reproduction and not sensual pleasure that the testicles and ovaries have a twofold function (a) reproduction and (b) to supply force and energy to other organs of the body that occasional emissions at night are evidences of normal physiological activity that sexual intercourse is *not* essential for the preservation of virility that chastity is *compatible* with health and that the sex instinct in man may be controlled. For elaboration see *Preventive Medicine and Hygiene* p. 85

Sex Education

When we come to realize that a large percentage of even the students suffer from venereal diseases¹, it becomes necessary to suggest that certain preventive measures should also be employed, besides mere education, to cure those who are suffering and to save those that might become victims to these modern sex-plagues. In considering venereal prophylaxis, it should be further remembered that such diseases do not yield immediately and the students should, therefore, be advised to undergo a continued and reasonably efficient medical treatment even after the supposed cure.

(b) *At the Home* The sex education should not, however, be left entirely to the school teachers, for much solid and constructive work is to be done and supervised in the home. The most effective preventive measure against sexual abuses is character building, and this could hardly be accomplished better than through proper training at the home.

¹ Making a personal appeal to the author for suggesting means to prevent the progress of venereal diseases among students Prof H C Mukerjee Inspector of Colleges of Calcutta University observes: For sometime past I have been noticing with increasing sorrow a gradual deterioration among our students in both their physique and morals. When I inspected the Carmichael Medical College last I was informed on unimpeachable medical authority that 70 to 75 per cent venereal cases treated in the outdoor dispensaries of Calcutta are contracted by students of higher school classes and College students. Dated the 5th June 1930 Senate House

Care of the Sexual Organs

It is the mother who should enlighten the young girl to the abuses and dangers of sex, and see every day that her instructions are faithfully carried out, and that all the hygienic means specified for this purpose (as outlined under *Some Practical Suggestions* and elaborated in the chapter on *General Hygiene*) are strictly observed. Boys should likewise be instructed by their fathers or guardians who should make it a daily habit, in the interest of his own children, to observe their moral, mental and physical growth.

Besides cleanliness of the external sex-organs and emphasis on the virtue of moral life, the general hygienic means should also be enforced, as the sexual health is mainly constitutional and responds quickly to a corresponding increase in the standard of physical well-being.

(c) *By Literature* Much can be accomplished in broadcasting healthy sex education by propaganda (through motion pictures, lectures, etc.), publications, notifications and many other avenues (e. g. through distribution of standardized literature upon the subject of sex, followed by free instructions at the health centres etc.)

Not that only the boys and girls of tender age are ignorant of sex hygiene, but even the married do not seem to know much about the proper care and right knowledge of sexual organs and their respective functions. Literature, of course, is the best medium.

Sex Education

wherever personal instructions are not possible, to educate the general public

Modern Sex Hygiene

§ 6 It is now generally recognized that idleness, evil associates, impure thoughts, stimulating drinks or food, overeating, constipation, etc are among the main causes that excite passion. Unclean habits also tend to irritation of sex organs, just as emotional or mental excitement and curiosity stimulate sexual craving.

The code of personal hygiene recommended, for purity in sex, by the modern scientists, is principally constitutional. Thus, idleness is to be replaced by physical exercise and an out-of-door life. Evil associates and impure thoughts could be avoided by the habit of occupying or diverting the mind to other subjects or to more useful aims of life viz art, literature etc, which may serve as a safety valve for the excess eroticism of youth. The habit of stimulating drinks or food and overeating can be remedied by self-denial and moderation. Constipation and other pathological conditions should be relieved through the various means suggested elsewhere in this work. Again, in order to prevent irritation caused by decomposition of secretions of the sex endocrine glands genital cleanliness should be practised daily and thoroughly.

The hazard of kissing and other unsanitary practices

Care of the Sexual Organs

must be lessened or absolutely avoided. The need for hygienic sexual relations, within or outside of the marriage bonds, is also imperative and considerable precautions should prevail, before indulging in such acts, to guard against possible evil to both the parties.

Literature through scientific treatment of the physiological functions of sex, more than anything else may prove to be the best medium of diffusing knowledge upon sex matters, and can, thus, easily meet the need of a vast majority of people who are usually misguided through erotic and superficial knowledge and degraded ideas and instructions upon matters sexual.

Yoga Method of Sublimation

§ 7 The psycho analyst interprets that the sexual impulse and energy become directed to more useful and non sexual purposes, in adult life, through a process termed "*sublimation*". Should the sexual impulses and energies, however, remain unsublimated or unrepressed, they become invariably manifested through various psycho-sexual perversions and inversions¹. The unsublimated libido is further supposed to cause a derangement of the nervous system and the psychic structure—a neuroses in one of its several forms or variations—generally².

¹ Cf. Dr. Hirschmann's *Friedrich's Theory of the Neuroses*, p. 112

² *Ibid* p. 115

Yoga Method of Sublimation

Yoga recognizes all these issues, namely, the usefulness of the process of sublimation etc., and recommends the replacement or deflection of the energy not only of the sexual impulse but also of the non sexual mental modifications (*cittavṛtti*)¹. This is best achieved by efforts at concentration and elevated moral and spiritual life, filled with enthusiasm, devotion, determination, etc. so necessary to distract the mind from sexual impulses².

The hope of attaining supernatural powers or *aśāśiddhi* and the acquisition of physical, mental and spiritual perfection held before the would-be yogin inspires him with a necessary fervour and willingness to sacrifice base gratifications (sexual and otherwise) for the sake of higher achievements. The moral code of observances and restraints (*yama* and *niyama*) is a great check against the emotional and thus the weaker side of nature. By scrupulous cleanliness, disinclination to one's own body and cessation of contact with others is encouraged³ which, in turn, creates dispassion

¹ Compare *Yogasutra* I 1 (to be read with the following sutras in the same section beginning from 32 and further)

² Malchow remarks: It is a deep and discriminating knowledge of the psychology of man that requires the elimination of sexuality in order to insure a greater enthusiasm, deeper devotion and mental concentration for a spiritual cause. See *The Sexual Life*, by Dr. Malchow, p. 34.

³ See *Yogasutra*, II 40

Care of the Sexual Organs

towards all sexual acts. Finally, the love and search for superior knowledge (called *brahmajñāna* or *vishvajñāna*) serves his purpose for a guiding line (Adler). These with other substitutes of a varied nature occupy the entire being of an individual leaving no space for expressions of sexual impulse, during the study of Yoga.

The physical sexual energy of the youth finds an outlet in the yoga physical culture, and a desire for longevity through the various purificatory means. Again, the purification of the body or *dehasuddhi* diminishes the danger and chances of passion-consciousness, both in its frequency and intensity.

It is thus clear that more interest is, undoubtedly, aroused by these methods of yoga sublimation than is ordinarily possible through love of art or literature and certain socially useful purposes. Furthermore, Yoga changes the entire outlook on life and the sexual instinct is thus made exceptionally insignificant. Again, the positive and negative contemplations (*pratipaksa bhāvanā*) purify the mind of unclean thoughts and inspires one for the highest good, through equanimity, dispassion and indifference to the pairs of the opposite (*dvandva*). Lastly, the ideal of *brahmacharya* or continence adds considerably to the Yoga efforts at sublimation. In short, the entire scheme of practical Yoga is one of utmost significance, and

Interpretation of Brahmacharya

is by itself a complete and successful process of sublimation¹

Interpretation of Brahmacharya

§ 8 In the Vedic and the earlier Upanishad period continence (*brahmacharya*) in the sense of abstinence from sexual intercourse—either by action, mind or word with all living beings and at all times² was regarded as the highest and the only virtue leading to Yoga³. This was modified and supplemented with an equally important practice of concentration during the later period⁴. This association of the idea of continence regarded as an essential requisite in the achievements of Yoga however gave rise to a variety of misconceptions. It has, thus, been wrongly supposed that a married life is not particularly suitable for the practice of Yoga, that such an engagement obstructs the path of higher pursuits and even if pursued under such conditions does not lead to the ultimate achievements. This was

¹ For practical details and particulars of the various stages of sublimation suggested here a reference should be made to *Yoga Hetu Hjj* etc. by Sri Yogendra Vol. III (in press)

² Cf. *Īśvarasūtra* VI 18

³ See Rgveda X 1-2 Cf. *Īśvarasūtra* etc. Vol. VIII p. 3/ VIII v. 1. *Aṣṭa Upaśānti* II 15. *Taittiriya Brāhmaṇa* I 4. *Bṛāhmarakṣa Upaśānti* I 11 6. *Mādhyama Upaniṣad* II 15

⁴ *Īśvarasūtra* etc. Vol. II p. 11. *Īśvarasūtra* (Aṣṭa VI 11 with Mādhyama commentary)

Care of the Sexual Organ

further misinterpreted to indirectly suggest that a woman is debarred from undertaking the course of Yoga.

The interpretation of practical Yoga, however, of a continent life, is rather exceptionally broad and elastic, and consists mainly of a dispassionate attitude towards matters sexual, and purity in sex. It *does not* bar a married man nor even a woman from undertaking the course of Yoga. On the contrary, Viṣṇana Bhikṣu asserts that "It is mainly for the householder (*grhastha*) that the eightfold path of Yoga is disclosed"¹ In the *Yogabīja*, we are further informed that Yoga can be practised both by males as well as *females* of any caste or religious belief² Practical Yoga, while considering brahmacharya a necessary requisite (one of the restraints) still holds that, through hygienic and rational adjustments in the married life³, it is possible to attain all the benefits of Yoga. Svātmanama, the great practical yoga writer, with a view to uphold the true value of Yoga even under adverse conditions and to broadcast its universal application, advocates that "anyone can hope to achieve complete success as a yogin, even while living a wayward life (*svicchayā vartumano api*) if

¹ Cf. *Yogasāra-samgraha* p. 35

² See the commentary called *Jyotiṣa* on the *Hithayopniṣad*, IV. 15

³ According to Manu a married man may also be considered a *brahmachari* (celibate) if he observes hygienic sex relations within the marriage bonds. The rules and regulations of

Some Practical Suggestions

only he or she follows the practice of *vajrola* (broadly speaking, sex hygiene—a practice for the cleanliness and preservation of the generative organs and virility respectively)¹

Some Practical Suggestions

§ 9. The practical suggestions offered by the modern students of sex hygiene corroborate very favourably and closely the means recommended and followed by the yogins. The points of agreement are the moral and mental hygiene, the cleanliness of the external genitals, moderation in diet, abstinence from stimulating drinks and food, out-of-door living, light clothing and many other details elaborated in *General Hygiene* (Ch. VII)

such a conduct for the married are mentioned in the *Mahabharata* (II 49). Compare also *Yogabhiseka* (by Yajñavalkya) I, 57.

¹ Compare *Hatla-pajapadipika* I, III 82. Also see *Srikanthadatta* IV 79.

A similar passage runs in the *Mahabharata* quoted by the author of *Jyotsna* (IV 15) which boldly asserts that "even a prostitute (*rajakranta nari*) can attain the highest object of life by following this practical Yoga. Contrary to the general misunderstanding this statement most certainly proves that the study of practical Yoga can be undertaken successfully by one and all and there is no bar against a woman or even a married woman or for a matter of that even a prostitute. My own practical yoga teacher gave me to understand that his great grand master was a woman (*Yogini Amasuya*) who knew the science of Yoga thoroughly.

Cure of the Sexual Organs

Besides these usual precautions, Hathayoga suggests (a) the observance of certain practices which are supposed to influence the activity of sex organs (b) cool baths, (c) irrigation of the genital passages, and (d) active continence

(a) *Useful Processes* These consist of *mudras* and higher psycho physiological exercises and postures. Besides *vajrolī*, *khecari* and *asvinī*¹ are the two other *mudras* which are supposed to preserve virility and maintain normal functions of the sexual organs

Of these, *vajrolī* is discussed under the last two sub heads of this section. *Khecari*, however, is extremely complicated and quite unsuited for an every day exercise, especially in case of a lay man. Its superficial technique consists in retroverting the tongue, after incising the *frænum lingue* and thus isolating it from the main body of tongue, and pressing the same deep in the fauces thus causing entire closure of the *rima glottidis* (of course, by pressing back the *epiglottis* with the point of the retroverted tongue). This closure of the main air passage causes such changes in the intima

¹ Gorakṣa Svātmarāma Yajñavalkya and others do not refer to this process may be for an obvious reason that *mulabandhī* closely corresponds the technique of *asvinīmudra* except for the variation in posture which in case of the former is similar to *muktāsana*. Gheraṇḍa and other later authors on Hathayoga like Yugalādasa Buva Śarma and Brahmananda have however treated *asvinīmudra* as an independent exercise

Some Practical Suggestions

thoracic pressures as to produce a reflex influence upon the flow of the blood in the genitals—the influence becoming marked during sexual excitement¹

Aśvinīmudrā consists in an effort to simulate the anal action of a mare (*aśvinī*) after she has excreted the bowel contents. This is best performed in a squatting position (Fig. 7), or in any convenient pose which may allow free movements of the anal muscles. Now, with every exhalation, contract the anus—especially the levator ani, the anal sphincters and the broad ligaments of the perineum (those supporting the muscular fibres of the prostate and the erector muscles of the penis, in the male, and the muscles of the urogenital region, mainly the transversus perinei, in the female). Then, after a deep and prolonged contraction, inhale slowly and let those muscles relax completely. This alternate contraction and relaxation of these parts is termed aśvinīmudra².

When practised in a rapid succession, it increases blood circulation and further, by its wave-like contraction and expansion (through complete relaxation), causes an internal massage to the deeper sex organs. Moreover, it also gives tone to the reproductive organs

¹ The uses of khecarī are manifold when applied in conjunction with the other processes. In this instance it is to be practised with the vajroh mudra. Consult *Hathayogapradīpikā* with *Jyotsna*, III, 42

² Cf. *Gherandasamhita* III 82

Care of the Sexual Organs

generally for the very simple reason that it reflexly affects the finer sympathetic nerve endings which are quite elaborate—especially in these parts. The yogin claim that sexual debility may be overcome in course of time through this exercise¹

Among the postures those that influence the generative organs are *sirasana* *sarvangasana* *vikṣasana* (with other similar poses) *bhadrāsana* and *gorakṣasana*

Of these *sirasana* and *sarvangasana* have already been described (p 90 ff) *Vikṣasana* and its variations are difficult of practice for an average man and have therefore, to be omitted here. Even though highly useful for stopping too frequent nocturnal discharge (*Madhavadasa*) *bhadrāsana* is likely to cause dislocation of the ankles or the knees if not carefully practised or strictly supervised by an expert. *Gorakṣasana* which is considered identically the same is *bhadrāsana* by the author of *Hathayogapradīpikā* (I, 55-57) differs from the former to some extent and is much simpler in operation. It is practised thus

First join the soles of the feet together in front of the genitals with the toes pointing outwards. Now move the body (by lifting it slightly from the ground placing the weight on the two extended hands) and place the two heels under the anus. Let the feet

¹ Consult II / III 84 also *Yogasana* 1 / 74

Some Practical Suggestions

cover the seam of the perineum breadthwise and hide the legs (from the knees down) by their respective thighs. Keep the hands pressed on the knees so as to cause a steady pull posteriorly varying the strength as



FIG. 25

to rakṣa 2 (best suited to it paṇi uḥ 1 uḥ 1 paṇi)

desired by a downward pressure upon the knees.
See FIG. 26

This posture by working upon the connective
159

Care of the Sexual Organs

muscles of the groin and the thigh indirectly stretches both the superficial as well as the deeper unio genital muscles and thus aids elasticity of the respective muscular fibres and a corresponding increase in the circulation of blood

Sexual debility is the most common form of ailment principally due to weak constitution or abuses of the sexual organs. Incomplete sexual acts (as in unsatisfied intercourse or self abuses) and oft repeated sexual excitements (without natural relief which is realized only through successful coitus and orgasm) are probably the worst agents that cause congestion of the internal sex organs through sustained dilatation of the numerous capillaries. Under such abnormal conditions these congested parts grow weaker and weaker for want of proper blood circulation and their functions ultimately become so impaired as to set in the strongest reactions which, on the slightest sexual irritation or by anything the least suggestive, cause premature emissions. Consequently the muscular response also becomes poor e g feeble erections in the male, and inactivity of the clitoris and failure of the erectile tissues in the vaginal orifice to produce the necessary gripping in the female

The other conditions which generally prevail and could be remedied easily are those that arise from inflammation of the inner sex organs. The muscular inactivity could be remedied by muscular movement which is probably the only efficacious method of increa

Some Practical Suggestions

sing muscular power—which means exhilaration. Again in congestion or inflammation there is high tension restricted motion, impaired circulation of blood etc—all of which cause marked nerve (through the sympathetic or the vaso motor nervous system) and functional alterations which are more severe and frequent in women than in men.

These could be easily relieved by drainage of the surplus blood and equalized circulation. *Asvinimudra* not only affords the necessary muscular movements but when practised in cooperation with *sarvangasana*, (due to the genital region getting elevated above the heart) causes complete drainage—the action being accelerated by the force of gravity. After having thus established normalcy it is proper to follow up the method of toning the accessory muscles by stretching exercises with alternate contraction and expansion. *Goaksasana* is exceptionally suited for this purpose and one may continue the pose so long as is found convenient. The yoga authorities claim that through a faithful observance of the above practices diseases arising out of inflammation or congestion of the sexual organs may be cured.

(b) *Cool Baths* In advising the celibates and the householders the authors of *Linjapaurana* (Ch viii) and *Bhagavata* (XI vii 2a) recommend the use of a cool bath (60° to 66°F) before retiring to bed to avoid nocturnal pollutions. It is of course admitted by the

Care of the Sexual Organs

students of hydrotherapy that such baths tone the nervous and muscular system and the beneficent physiological effects associated with it may, therefore be relied upon¹

(c) *Irrigation of Genital Passages* Just as cleanliness of the external sex organs is useful for hygienic purposes, the internal cleansing of the genitalia is likewise productive of the highest good if performed intelligently and at fixed intervals. The practical yogins who are always extremely particular about the internal cleanliness of their organs have found an easy method of irrigation of the genital passages, a process which, in its highest technique, is called vajroli mudra

The process of vajroli, however, is practised in various stages viz preliminary, intermediate and final efforts. The initial stage consists in introducing a catheter in the genital passage very tactfully, and then drawing in air (through the suction and vacuum process of nauli) and after retaining the same for sometime to expel it slowly from the same passage. This ventilation, air-bath, or oxygenation (whatever it may be termed) is supposed to minimize to some

¹ In preference to this I would like to suggest the use of cold hip baths (50° to 60° F) accompanied by a warm foot bath (98° to 100° F). This keeps the extremities warm and thus maintains favourable circulation in persons with lowered vitality

Some Practical Suggestions

extent, the danger of putrefaction or decomposition of the internal secretions covering or adhering to the inner cavities after discharge

In the intermediate stage, instead of the air, the yogin draws in water and thus causes urigation of the genital passage. He (or she, for the vajrolī process is common to both the sexes¹) then proceeds with liquids of higher specific gravity e. g. milk, honey and sometimes mercury² so as to train and accustom the accessory muscles to successfully withdraw and retain the internal secretions of the sex endocrine glands even under sexual excitement.

The cleansing of the genital passage, however, with water (adding any mild antiseptic) is probably the best means of avoiding clogging and infection. Those who are unable to draw in the water through the process of *nauli* may do well to substitute mechanoyoga appliances e. g. catheters, douches and sprayers. Even though internal cleansing of the genital passage, like all other yoga hygienic performances, is an everyday observance with a yogin, the layman need undertake such a cleansing only once a week.

¹ Cf. *Hathayogasamhita* p. 41 also *Gorakṣasāṭaka* 84 (*śrī nam vajrolī*)

² As this process involves risk (blood poisoning) the use of mercury is restricted only to the master yogins who are already familiar with all the other yoga practices (for in emergencies they are best equipped to take care of themselves)

Care of the Sexual Organs

The highest technique of vajroli (final stage) however, consists in successfully withholding the ejaculations of seminal secretions prior to or during the period of an orgasm under sexual excitement namely, coitus and thus cause their reabsorption through the lymphatics¹

For the purpose of ordinary sex prophylaxis, however the attempts at final stage are much too complicated and unnecessary. The intermediate stage i.e. water irrigation of the genital passages is quite sufficient, and the best method is to use a common catheter with the usual douching arrangements²

(d) *Active Continence* Even though conflicting views are upheld by many prominent authorities like Munde, Franklin and others who maintain that, by

¹ In case the secretions happen to be ejected i.e. if an orgasm is experienced the yogin is advised to withdraw the secretion from the vagina (where it may have become deposited) through the aid of *Madhavadasa vacuum* and *khecari mudra* (of course to be followed with the alternate contraction etc. of the urinogenital muscles which are supposed to cause a reverse suction through triple conjoined effects). The actual technique is still more elaborate and consists of many other activities (worked in cooperation). For physiological treatment and fuller details of the subject consult *Hijer Yoga Practices* Vol. VII awaiting publication

² Before undertaking such a cleansing personally and independently it is advisable to receive proper instructions from a trained nurse or a physician

Some Practical Suggestions

disuse of the sex organs, the sex-endocrine glands become functionally impaired¹, it is vigorously maintained by a large number of other authorities like Rosenau, Lipschutz and others that passive² continence is compatible with health and further that the sex glands are like the tear gland and the sweat glands, in that they do not atrophy with disuse³.

Whatever may be the diverse conclusions of the modern scientific students on the subject of celibacy be, a few things, nevertheless, had been realized by the practical yogins, namely, that (1) the preservation of the internal secretions of the sex glands within the body has the greatest physiological value⁴, also that (ii) such preservations contribute largely towards the acquisition of a strong constitution both physical and mental, through the biochemical economy (as the emissions disassociate a large percentage of iron, phos-

¹ Fowler, Malchow Bertillon and others, therefore, suggest that sexual activities should be indulged in at regular intervals to promote health

² I consider ordinary continence, where no occasion is given for sexual excitement or orgasm with a view to avoid normal functions of the sex organs, as a mere passivity

³ Cf *Preventive Medicine and Hygiene*, p 86

⁴ "The fluids emitted during an orgasm are *not waste material* and their retention would in themselves not be altogether a disadvantage" *The Sexual Life*, p 43

Care of the Sexual Organs

phorus and calcium from the total strength of blood¹, and further that (iii) only under the stimulus of excitement, a much larger quantity of the fluid is elaborated and secreted, and that these extra fluids when re-absorbed (by promoting corresponding increase in the activity of the lymphatics) become transformed into life-energy²

The conditions, therefore, necessary to fulfil the above objects of conserving energy—in this instance, through the preservation and absorption of the fluids into the system—are the normal physiological contact of the sexes and abundant nutrition to allow the sex glands to elaborate secretions without any compensating loss³.

¹ See *The Internal Secretions of the Sex Glands*, Cambridge, 1924

² "We must remember that the sex fluid is the carrier of the *life force*. During abstinence from intercourse the sex fluids with their *creative energy* are absorbed through the inguinal glands into the organism and increase physical, mental, moral and spiritual capacity and energy." Cf *Natural Therapeutics*, Vol II, p 318

Some students hold that one part of semen is equal to many parts of pure blood, and further that when absorbed again into the system this fluid is transformed into "*nerve energy*". Compare *Encyclopedia of Physical Culture*, Vol. V, pp 2450, 2468 Poehl's experiments with spermine and the latest treatment with active hormone for producing rejuvenating effects add materially to the above belief.

³ This idea may be simplified thus. That, instead of mere

Some Practical Suggestions

These two conditions were recognized by the yogins as essential¹ Interpreted in modern terms, this ideal of brahmacharya, in case of a practical yogin, is extremely significant and shows that the yoga masters were *not* unaware of (i) the extraordinary influence exerted by sexuality in all its aspects upon both man and woman, (ii) the need and importance of hygienic sex relations, (iii) the necessity of normal encouragement of the sex instinct and the preservation of sex vitality, (iv) the value of internal secretions of the sex endocrine glands and (v) the highest physiological

passivity it is better to engage in sexual activities when necessary (for this certainly causes less strain and costs less energy than what has to be actually expended in self-denials and repressions) remembering that there should be no physiological loss This to be sure is inevitable if the secretions escape from the body The yogin therefore is quite careful in so far that he allows free secretions just enough for the physiological activities but does not allow the fluids to escape and thus suffers no corresponding loss On the contrary he gains much through healthful reactions and absorption of the extra fluids Nutrition however is maintained by a liberal course of milk-diet

¹ Thus according to the Hathayoga authorities the two important requisites of success in yoga sex hygiene—especially for the due performance of the complicated but exceedingly fruitful practice of vyrohi—are (i) a woman behaving as desired and vice versa and (ii) a liberal supply of milk It has been also realized that both these are not very easily obtained under average conditions See *Hatha yoga pradipika* III 83

Care of the Sexual Organs

and mental benefits derived through the re absorption of these secretions

It is thus easy to appreciate that this code of sex hygiene of the Hathayogins allowing complete and healthy enjoyments of marital relations (with limitations as previously outlined) not only without any corresponding loss but positively with the highest physiological gain (through reactions and reflexes) is a fine hygienic ideal, and (*if only* the practice of vajrolī can be made possible to and within reach of *one and all*) solves incidentally the most discussed topic in modern eugenics, namely, birth control¹

The Hygienic Time Table (Section VII)

§ 10 The following table will be found useful in adjusting the necessary time and sequence, in respect of the various practices herein suggested

Organ	Yoga method	Frequency	Time
The sex organs	<i>Asānimudra</i>	evening only	5 minutes
"	<i>Goraksasana</i>	morning & evening	3 "
	<i>Vajrolī (douching)</i>	once a week	10

¹ When in the Yoga Institute for her week-end trip

The Hygienic Time Table

The above exercises should be practised in their usual sequence, and repeated for a longer period if necessary. Aśvinimudrā is best suited for practice in the night (just before retiring to bed), but may also be performed in the morning. The irrigation of sexual passages with water and antiseptics practised more frequently (in women) will do much towards relieving inflammation or congestion of sex organs.

Margaret Sanger, the pioneer of the birth control movement in America, took liberty to discuss with the author (assisted by Dr McSutton, the then resident physician of the Institute) the above aspects of sex hygiene (with a view probably to investigate any possible means known to practical Yoga for rational birth control), and it was admitted that, if practicable, this yoga code of *active* continence is the most ideal solution of the all-important question of birth control.

CHAPTER X

CARE OF THE BRAIN AND NERVOUS SYSTEM

When the nervous system is relieved of all its impurities there appears the perceptible signs of success such as slim and graceful body with bright glowing colour of health

Hathayogapradipika, II, 19

THE chief physiological activities that distinguish a man from a brute are those concerning the brain and nervous system. While fully realized in its true significance by the ancient yogins thousand of years back, recently, for at least a hundred years, the correlation of intelligence with the cerebral evolution and especially with the extent of the cortex has been universally accepted. Starling says that in proportion as the cerebrum becomes prominent, the animal is less and less machine-like. In the brain of man, this development (corresponding with higher intelligence) reaches its most conspicuous rank.

*Brain as an Organ of Mind*¹

§ 1. Even though contemporary investigations were in progress (700 to 200 B C), the practical

¹ In treating of the brain as an organ of mind from the

Brain as an Organ of Mind

yogins did not share the belief of the ancient Hindu medical science, with respect to the origin and seat of consciousness¹ Thus, it was definitely held by them that the brain², with the aid of the elaborate nervous system, is mainly responsible for transmitting expres

yoga point of view it should be made clear that I use the word organ merely in the sense that it is a part whose molecular changes and activities constitute the essential correlatives of the various phases of consciousness (*citisaṅkṣa*)

Further the yoga psycho physiological parallelism (between *citta* and *prana*) should not be underestimated or overlooked as it is the only and by far the best working hypothesis (recognized by the most modern physiologists) Cf Hailburton's *Handbook of Physiology* p 798

¹ In Caraka and Susruta (as in Aristotle) the heart is the central organ and seat of consciousness but in [Yoga and the latter] Tantric writings (as in Galen) the seat of consciousness is transferred to the brain or rather the cerebro spinal system Cf *Positive Sciences of the Ancient Hindus* by Dr B N Seal pp 218 219

Even the early non Indian investigators did not fare better or escape the fate of ancient Hindu medical students Thus unlike Plato Aristotle (*De Anima* III v) held the heart not the brain to be the central organ or seat of the soul The fact that the cerebral hemispheres were insensitive to stimulation probably confirmed him in this view

² The notion that the brain is the principal organ of the mind and that intellectual capacity can be measured by the size of the brain and further that there is a localization of special mental functions in its several parts is a fundamental position fully realized by Willis, Prochaska Gall Spurzheim and others.

Care of the Brain and Nervous System

sions of both the subjective and objective psychology and represents the true physical medium (also basis aspect) of all mental activities¹

*Yoga Neurology*²

§ 2 The practical yogins while recognizing the two distinct operations of the cerebro-spinal and the

Cf for further criticism *The Brain as an Organ of Mind* Prof. H C Bastian M D, p 517

¹ Consequently the relationship between consciousness and experience and the process thereof is somewhat like this

The five external senses through their respective physical organs like eye ear, nose skin etc. come in contact with objects of knowledge and the feeling-complexes thus recorded are carried by the *nerve-impulses* or *pranavayu* to the brain assisted by the five internal senses At the first movement of touch there is an indeterminate consciousness in which particulars of the thing cannot be noticed This is called indeterminate perception At the next movement by the function of the synthesis and abstraction or imagination of the mind-organ the thing is perceived in all its determinate character, the mind stuff differentiates, integrates and associates the sense-data received through the senses, and thus generates indeterminate perception, which when intelligized by the soul associated with it becomes interpreted as the experience of the person' Cf. *A History of Indian Philosophy*, Vol. I, by S. Dasgupta, M A., Ph.D., pp 261 262

² For technical elaboration and comparative study of anatomy and physiology of nerves, a reference should be made to my *Yoga Psycho Physiology*, (Vol. IV of this series) awaiting publication.

A Great Telegraphic System

autonomic nervous system consider them as one whole in which both the activities are closely, interwoven

The cerebro spinal system mainly consists of the *sahasradala* (brain) and the *susumna* (spinal cord) contained within the cavities of the cranium and the spinal column (*merudanda*) respectively.

The autonomic system is largely composed of a double chain of ganglia (*ida* and *pingala*) situated on each side of the spine and extending from the base of the skull to the tip of the coccyx (*mulādhāra*)

The network of the entire nervous system is delicately interwoven by seventy two thousand *nādis* (nerves), apart from a large number of minor nerve endings etc. Of these, only sixty two pairs are of some importance. Of these pairs also, only fourteen have been considered by the yogins for further investigations. Great importance, however, has been attached to the activities of the three main nerves viz, the *sūṣumnā*, the *ida* and the *pingalā* which are supposed to control the voluntary and the involuntary functions of the human body and which the yogin desires to bring under his own volition

A Great Telegraphic System¹

§ 3 Curiously enough, the practical yogins were not unaware (even at such an early date as 200 B. C.)

¹ This section is a part *verbatim* of the chapter on Neurology contained in the book Cf. above.

Care of the Brain and Nervous System

of the exact working of the nervous system which has come to be fully realized by the modern scientists only recently. How this was possible will be discussed elsewhere. Suffice it to say that the terminology used by them to express in scientific terms the activities of the nervous system is indeed remarkable.

For popular understanding, however, the working of the yoga nervous system can be explained in terms of an electric plant, a telephone exchange or more correctly like a great telegraphic system¹. Thus, we are told by the commentator Kālicaraṇa that the nerve fibres (*nāḍītaṇṭu*) represent exceedingly fine tissues like those of the spider's threads, and these connect all the nerve centres throughout the body like cob webs².

It is really interesting to further observe that the yoga neurology did not share the early speculations of the medical authorities with respect to the manner of action of nerves as tubular conduits, but held that these fine nerve fibres are like *electric cables* transmitting the bio-motor force (*prāṇa*) through nerve-impulses (*prāṇavayu*) in a series of electric discharges (*vidyunmālāvilāsā*)³. This latter view is

¹ Cf for similar views *Hygiene of the Brain and Nervous System*, by Dr J W Courtney also *The Nervous System and Its Conservation*, by Dr Percy Stiles p 39

² Cf *Śatacalānirupana*, I, 2

³ Cf *Ibid* I, 3, also *Yogabhasya*

Importance and Control of Nervous System

now endorsed as being the only correct representation of the action of nerves by the leading physiologists (Tashiro, Bayliss and others)

Two investigators, Crehore and Williams, of New York, have recently attracted much notice by their contention that nerve impulses are actually *electric* in their nature¹ A practical demonstration, somewhat of this nature, was given by the author of this work at New Jersey (U S A) in 1921² It has been further maintained by the yogins that the electric discharges (transmitting nerve-impulses) are governed by the positive and negative animal-magnetic currents which correspond to the activities of the right and the left nostrils respectively³

Importance and Control of Nervous System

§ 4 "When we consider," says Courtney "that it is upon the perfect integrity of the fine adjustment of this delicate and intricate organization [the nervous system] that the healthy functional activity of every other tissue in the body, even to that of the most insignificant secreting gland, depends, we are in a

¹ Compare *The Nervous System and Its Conservation* by Dr P G Stiles, p 40

² Cf for a summary report of this demonstration *The World Magazine*, (Sept 11 1921) p 8

³ See page 149 ff of this work

Care of the Brain and Nervous System

position to estimate the extent to which our physical as well as mental well being is under its control"¹

Again, as the sole object of practical Yoga is to either control or restrain the mental modifications (*cittavrtti*) from taking various forms and as the brain and nervous system are the only physiological organs through which such a mental control may be gained it is easy to realize what an amount of elaborate details the yogins must have worked out to establish complete control over the entire nervous system. Practically, the use of Hathayoga is directed to the control of nervous system², for it is believed that only through the complete purification of the nervous system (*nadisuddhi*)—when the five fold nerve impulses are made to flow in absolute harmony through the *susumna*—is the state of trance (*samadhi* or the highest achievement in practical Yoga) reached

Nervous Disorders

§ 5 It has become quite common now a days (due to lack of proper understanding of the sympathetic nervous system) to attribute a lot of diseases to "mere nerves" most of which do not actually belong to the category of nervous diseases. This method of easy explanation, at times, leads to misconceptions

¹ Cf *Hygiene of the Brain and Nervous System* p 278

² Cf *Gorakṣasataka*, II 8 *lojaraṣayanam* 200

Nervous Disorders

with respect to the origin and serious nature of the disease. Of course, having most direct and intimate relationship with every part of the body, even the slightest local disturbance is registered by the nervous system. Likewise all nervous disorders cause also functional derangements, and in some instances it becomes impossible to disassociate their inter-dependence when prescribing treatment.

Nervous maladies may principally be attributed to mental attitude in life e.g. pessimism brings on will-failure termed neurasthenia (Fisk and Fisher), vague collection of fears and anxieties causes general and nervous debility etc. The curse of modern civilization is nervous strain, and modern life has, thus, indeed, increased the scope of nervous disorders¹. We have what are termed "war neuroses" (Salmon) to which may be conveniently added the economical, political, social and religious neuroses, I mean, the people who have to labour under the unusually heavy nervous strain incidental to the wrong side of these institutions². Put together these facts which unfortunately are hardly known to the sufferers or even to the physicians who treat them for their nerves, and we get what we

¹ As the common communicable diseases are being controlled infections of the brain, spinal cord and nerves are growing. Cf. *Preventive Medicine and Hygiene*, p. 393.

² Cf. *Memorabilia* by Shri Yogendra, p. 73.

Care of the Brain and Nervous System

might term a chronically neurotic world. Such suffering, however, can be relieved only by radical and suitable changes and adjustments of the circumstances which encourage such nervous disorders (rather than engaging the services of physicians to cure them).

Besides this type of nervous suffering—a result of modern hurry worry life poverty and servitude—a large percentage of disorders may also be traced to imagination¹ the so called *malades imaginaires* (Lasguez). These diseases are not *imaginary* diseases but they are diseases *due to imagination* and actually accompanied by real functional disturbances². As suggested in the *Mahabharata* (Śantiparva, 205), the best cure for such diseases lies in the fact that one should *not* think of them at all (*nanucintayat*)³.

Apart from these psychic (mental and emotional) conditions, there are a large number of other causes also which produce nervous disorders e. g. chemical

¹ Cf. Ch. Féré's *La Médecine d'imagination* (*Progrès Médical* p. 309 1884).

² See *Animal Magnetism* by Binet and Féré p. 303.

³ Deslon (1780) of France appears to have come to the same conclusion since he says not unreasonably. If the medicine of the imagination is the most efficient why should we not make use of it? Mesmerism hypnotism Christian Science and last but not the least Concism are all different aspects of one and the same thing—the method of curing imagination or through imagination—which at times do show good results especially in the treatment of nervous disorders.

Mental Hygiene

(auto-intoxication, habit-forming drugs, over-work, etc), mechanical (local injuries, deformities, influences of heredity etc) and otherwise. Insanity is often due to one or many of the above causes (to be sure, in their extreme form) which lead to neuroses and psychoses and the condition becomes gradually more and more acute till at last it terminates into a chronic state beyond recovery.

From the experimental work of Abelous, Hodge and others, it would seem that all nervous disorders denote a condition of pathologic fatigue of the entire nervous system and also connote a coexistent condition of morbid nervous irritability. Nervous weakness, therefore, is nothing short of an outraged nervous mechanism. Nervousness is really the cry of the nerves for better nutrition and care. This is possible only through healthy mental attitude, rest, recreation, improvements of a constitutional nature and specific treatment of the spine etc.

Mental Hygiene¹

§ 6 With this brief understanding of the paramount importance of the role played by the brain

¹ A programme of mental hygiene cannot be laid down with anything like scientific precision as the individual growth depending upon religion, law etc is still governed by dogmas. In this section only a certain aspect has been discussed as far as it concerns the health of brain and nervous system directly. Cf

Care of the Brain and Nervous System

and nervous system in the ultimate realization of Yoga and in the carrying on of vital functions, it is now easy to appreciate a consideration of the elaborate measures which have been adopted by the yogins for the maintenance of these organs in a healthy state. The first in importance stands the mental hygiene. Of this, the considerations which bear largely upon the physical well-being are (a) education, (b) freedom from emotion and (c) concentration.

(a) *Education* This should begin and govern the prenatal life for it is justly believed that parental influences are quite marked and shape, to a large measure, the physical and mental constitution of the unborn¹. The care of the infant, the education of the preschool child, the school child (during puberty and adolescence), the adult and even the advanced life should be governed by considerations of mental hygiene and the habits so regulated as to harmonize with the basis of a normal mental life.

(b) *Freedom from emotion* "There is certainly, as every physiologist knows", says Ward "a very close connection between sensation and such various organic movements as those of circulation, respiration and secretion. But in strong emotions it rises into distinct for an elaborate treatment of this important subject. *Yoga Mental Hygiene* Vol III of this series (awaiting publication)

¹ Compare *Not the Disease only but also the Man*, by Dr. J. J. Putnam

Mental Hygiene

prominence as part of what is called 'emotional expression'""¹. When, however, the emotions dominate the entire nervous system (to the limit of its strength), it is often followed by a nervous shock or diseases². In some instances, it has been found to be even fatal³.

Emotion, thus, is a great bodily event, working either for, or against, the welfare of the entire organism. The so-called "*curve of health*" (Holmes) which represents the ebb and tide of the living organism, under average conditions, is largely influenced by the emotional activities of an individual. It is extremely essential, as Myerson points out, to keep a close watch over these changes in mood and feeling which need attention as much as shortness of breath and indigestion⁴.

¹ Cf *Psychological Principles* by Prof James Ward pp 53-54

² It is believed by some that diabetes (emotional glycosuria) develops in consequence of fear and anxiety (Naunyn and Binger). The degeneration of ductless glands is often due to emotional disturbances (Lorand). For example arteriosclerosis is due to effects of emotions on adrenals (Hall and Scott), acromegaly is due to effects of emotion on the pituitary body (Pel), myxoedema through emotional influence on the thyroid (Sajous), and interstitial nephritis through nervous shock affecting the kidneys (Bilz) etc.

³ Cf Cannon in *American Journal of Physiology* p 563 (1915)

⁴ Cf Dr Myerson's *Mental Hygiene* p 450

Care of the Brain and Nervous System

Absolute freedom from emotions which the yogins term equanimity (*samatva*)¹ is primarily essential for the health of the brain and nerves, it being understood that even the less violent emotions leave a permanent mark upon the organism. That it is not possible to maintain health of the body without a rigid course of mental hygiene (due to influence of mind on body and vice versa) has long since been realized by the practical yogins². They, therefore, formulated a code of mental hygiene (beginning with the first two accessories of Yoga) what in the phraseology of Prof. William James be best understood by the term a "religion of healthy-mindedness"³. It is

- ¹ The poet sings in praise of Yoga and the yogins
"Never shall yearnings torture him, nor sins
Stain him, nor ache of earthly joys and woes
Invade his safe eternal peace,

Cf Light of Asia

"But harboured there, cannot be stirred or shook
By any gravest grief call that state Peace
That happy severance Yoga, call that man
The perfect Yogin!"

Cf The Song Celestial

Both the works are by Sir Edwin Arnold

² We have emphasized the importance of serenity and poise. These characteristics lie at the very foundation of hygiene of the brain and nervous system. They cannot be attained unless the psychic life is well ordered in all respects with regards to its hygiene." *Cf How to Live*, by Drs Fisher and Fisk, p 288

³ See *Variety of Religious Experience*, 1902

Mental Hygiene

imperative for the practical student of Yoga to follow the code of mental hygiene first, before he is even initiated into the actual processes of Yoga. The yogin's religion of healthy mindedness consists of the ten positive and ten negative virtues known as *yama* and *niyama* (restraints and observances) respectively. These are (i) non injury, (ii) veracity, (iii) non stealing, (iv) chastity (v) forgiveness, (vi) forbearance, (vii) compassion, (viii) modesty, (ix) moderation and (x) cleanliness (i) equanimity, (ii) contentment, (iii) faith, (iv) charity (v) devotion (vi) study, (vii) intelligence, (viii) caution (ix) reflection and (x) determination¹. For a practical yogin, these virtues are considered indispensable, and the mind becomes pure and steady in proportion to the amount of success and sincerity with which they are observed.

(c) *Concentration* To habituate the mind to concentrate its energies upon a given object is *dharana* (concentration). It is really the effort of the mind to fix itself on a particular object or thought, instead of allowing to diffuse its energies in various directions. The power of concentration and the power of detachment (what the yogins term abstraction or *pratyahara*) are nearly related, and the first is always preceded by the latter. These help to avoid mental labour and consequently the amount of nervous exertion is lessened.

¹ Cf. *Yogasutra* (Yajñavalkya) 47-48 ff. and other authorities.

Care of the Brain and Nervous System

It is quite known to physiologists that the habit of concentration produces sedative nervous effects (like the deep breathing exercises) and this of course promotes health of both the brain and nerves¹

Recreation

§ 7 It has been lately observed that monotony of occupation (industrial or otherwise) leads to nervous disorders, and that, in many instances, radical cures have been reported through changes in such occupations (Washburn). These results may be attributed to psychic change (of automatus environments) or better physical adjustments (by force of contrast). Whatever it is, one thing is clear that any change in mental or physical occupation (for the better), even for a few weeks or a few hours daily, adds materially to the health of the nervous system.

Persons with sedentary habits will find great relief in out of door sports e g golf, tennis, cricket etc. Whenever permissible an out of door life accompanied with such vigorous activities as mountain

¹ The foundation of all success in life both mental and physical depends entirely on the power of concentration and this could be effectively developed from childhood by means of systematic training. It is therefore essential that there must be concentration in everything which is not mechanical. Cf *Rhythmic Exercises* p 30. For the various exercises see *Higher Yoga Practices* Vol VII of this series (awaiting publication).

Art of Relaxation

climbing, hiking and swimming etc may be also tried with some benefit, apart from a course of regulated exercise as contained in this work

The yogin's best recreation consists in the study and love of all that is in Nature, where indeed the entire being is called into delightful activity (with the least possible effort of the will, nearly resembling the spontaneous movements of childhood) It has been found that in such engagements the brain is relieved of its excess of circulation, the nervous system is rested and the entire man refreshed and renewed¹

*Art of Relaxation*²

§ 8. Nothing, perhaps, has been so thoroughly misunderstood as the *art* of relaxation Relaxation should not be mistaken for inertia, it also does not mean lying in a lazy manner or doing nothing *Relaxation* really means *rest after effort*, more truly, *conscious rest* after conscious effort It, therefore, follows that the more perfect the effort, the more perfect is the relaxation

The so called "decomposing" or relaxation exercises suggested by certain French and American

¹ Physiological benefits derived from the study and love of Nature are outlined (depicting his own experiences) in Dr Holbrook's *Hygiene of the Brain and Nerves* p 198

² The material of this section has been drawn from my work *Rhythmic Exercises* pp 29 30 ff

Care of the Brain and Nervous System

advocates of physical culture are really artistic statue posing more in the sense of repose than relaxation Stebbins observes that relaxation means the conscious transfer of energy from one department of nature to another with perfect ease and grace after an extreme tension of body or brain True relaxation would mean a *complete resignation of the body to the laws of gravity* the mind to nature, and the entire energy transferred to a deep dynamic breathing The complete relaxation of the voluntary muscles at once transfers the energy to the involuntary parts, so that strictly speaking, there can be no such thing as relaxation, except in the voluntary muscles and brain But this is quite sufficient This transfer of energy by voluntary action and involuntary reaction produces the necessary equilibrium for the renewal of strength¹

Engel in his *Practical Illustrations of Rhetorical Gesture and Action* quotes from a very old German book a certain important method of relaxation in which the pupil is taught to lie upon the floor and to withdraw all voluntary nerve force from the extremities and thinking part of the brain and thus to simulate death This exercise is very strongly recommended as the beginning of all control of the body and is very ably illustrated by a picture of a man lying limp and helpless

¹ Cf. *Harmonic Gymnastics* by G. Stebbins p. 77 f. (1897)

Art of Relaxation

It may be interesting here to observe with reference to the practice of relaxation that it is a common custom among the nomadic Arabs and the caravan merchants journeying between Sukim, Berber and Kharatum, immediately they reach an oasis or other camping-place, to at once throw themselves in the shade upon the ground and then thoroughly and completely relax every voluntary muscle. Generally, they remain in this position from fifteen minutes to an hour, or sometimes even more, according to the state of their exhaustion. In certain parts of Kashmere, (the author has personally observed) it is customary for the labourers, who carry heavy loads on their back through great distances and heights, to stop on their way near a stream and lie down in a semi-lifeless state for sometime, when they feel physically exhausted. These mountaineers, the wanderers of the deserts, the gypsies and other tribes are able to undertake, when occasion requires, surprisingly long journeys with very little rest owing to the knowledge of the *art of relaxation* which consists in *resting at will*.

The advantage of relaxation is that it gives the maximum amount of renewed strength in the minimum amount of time. After any kind of exertion, perfect rest in the form of relaxation is the vital principle which recuperates or regalanizes, as it were, the nerve-centres, collects the scattered forces and so invigorates the whole body. It is extremely refreshing

217

Care of the Brain and Nervous System

just as a Turkish or Russian bath is and has the therapeutic advantages of proper massage

Postures for Relaxation

§ 9 For complete relaxation, the yogins suggest the use of various postures that contribute greatly to muscle-relaxation¹ They are (a) *dradhāsana*, (b) *śarāṣana*, and (c) *adhāsana*²

(a) *Dradhāsana* *Dradhāsana* or firm pose may be considered the best position for sleeping in which



FIG 27

*Dradhāsana the right side position
best suited for sleep*

one finds himself most comfortable. It is practised (See Fig 27) by lying relaxed with the right arm

¹ Maxick Roland and their followers lay great stress upon the importance of absolute relaxation as an aid to muscle control

² *Yastikasana* is the reverse process of complete stretching of the entire body through alternate contraction and relaxation of

Postures for Relaxation

under the head, as if, for a pillow, (in a completely passive state) on the *right* side of the body. It is known that lying upon the right side favours emptying of the stomach, besides ease in breathing movements (Kellogg). The yogins believe that by sleeping in this manner, dreams and nocturnal emissions are generally not experienced during sleep; digestion is improved and in a short period one feels the rest of a prolonged sleep¹.

(b) *Śavāsana* Śavāsana (corpse pose) is also differently termed *mṛtāsana* (dead pose). Whenever fatigue is experienced during the practice of yoga exercises, the student is recommended the use of this posture. According to Gorakṣa and other authorities, this posture destroys fatigue, and quiets the agitation of the mind².

The technique consists in simply lying supine with the face towards the sky and the hands and feet passively extended to their full length. Keep motionless (with a sense of sinking down) like a corpse and relax gradually every muscle of the body (by paying attention to each one separately) from the tip of the toe to the end of the skull by absolute resignation of will (trying to forget even the very existence of the

the principal skeleton muscles. For details Cf *Yoga Postures* Vol V (in press)

¹ Cf *Matsyendrasaṃhitā*, MS. at Bohar Maṭha

² Compare also *Gheraṇḍasaṃhitā* II, 20

Care of the Brain and Nervous System

body for the time being and getting oneself completely detached from its activities) Close the eyes, as if in peaceful sleep and keep watching the motion of breath till at last you synchronise the hazy sense of your being. Maintain this posture so long as it is found convenient¹ Refer to Fig 28 for details of practice



FIG 28.
Savasana for complete relaxation

Among the various physiological benefits derived through the exercise of this posture may be mentioned the improvement in actions of the heart and the nervous and muscular system

(c) *Adhvasana* Adhvasana represents a prostrate position of the body with all the muscles

¹ Watch a baby sleep and you will notice the impression of its helpless body upon the soft bed. What it does is to merely leave its weight entirely upon the bed and resign in favour of gravity. This baby like attitude (as against the slight tension of even the most insignificant muscle of the body usually experienced by the adult) should be the guiding technique while practising Savasana

says Goldthwait "is dependent very largely upon the tone of the muscles of the spine, and it is at once obvious that if the muscles of the spine are weak the circulation in the spinal cord must also be weak"¹

It has been fully realized by the yogins that, apart from certain indirect muscular influences, the spinal column never receives thorough exercise during ordinary physical movements. Special measures have, therefore, been adopted by them for exercising the vertebral column. In this instance they especially favour the stretching and twisting exercises for the spine. Of the many such postures, it is possible, at this stage, to discuss only the two important ones viz. (a) *paścimottasana* and (b) *matsyendrasana*.

(a) *Paścimottasana* Because this posture especially stretches (tan) the posterior (*paschim*) muscles of practically the whole body it is termed

¹ Cf. *The Body Posture* by J. E. Goldthwait M.D., p. 305
221

Care of the Brain and Nervous System

pāścimottānāsana or the posterior-stretching pose. It is practised thus

Whilst sitting on the floor, stretch out your legs together. Keep them fixed to the ground (stiff like a stick), without lifting or bending the knees. Now slowly incline and bend the body forward and reach out for the toes with the respective hands and fingers, then hold them tightly. Bend the head still further till the forehead finally touches the knees. This position may be easily secured by a vigorous pull on the toes with the fingers. Rest your face there (the hollow between the knees), and maintain this position as illustrated in Fig. 29.



FIG. 29

Pāścimottānāsana in the semi-circular arch showing the maximum stretching of the spinal column

Exercising the Vertebral Column

Except in very rare cases, the first attempts at this exercise are likely to be unsuccessful due to inelastic posterior muscles of an average person. Failure to complete this posture, as per illustration, need not discourage the progressing student, for the adjustments, however, will take care of themselves gradually by working at it every day¹. If an exhalation is followed when bending the head down it considerably aids the process of thorough stretching.

As will become evident from the illustration, this pose stretches the spine to its maximum length, making a semi-circular arch (the only position which is favourable for complete stretching), contributing to greater elasticity of the connecting muscles of the spine than is otherwise possible. By bringing these muscles into activity, it thus raises their tone and pliability. The activity of the spinal cord (through direct muscular influence of this exercise) is further stimulated, and the circulation considerably improved. Through the posteriorly stretched lumbo sacral verte-

¹ Those unaccustomed to posterior stretching of the back and the thigh (especially the hamstring *lumborum sacrospinalis* and other muscles) will find it convenient to undertake this practice in parts or follow similar but easy exercises prior to the study of this pose. The rowing exercise illustrated in my *Rhythmic Exercises* (p. 25) may be tried with great success. For illustrations of this pose in its various stages Cf. *Yoga Postures* Vol. V.

Care of the Brain and Nervous System

bre, the spinal nerves arising from this region also shew marked improvement in their tonicity

Among the general advantages (gained through this pose) may be mentioned the favourable compression of the abdominal viscera, the loosening of the stiff hamstring muscles flexing of the glutei, psoas major and minor muscles, besides complete stretching, to more or less extent, of all the posterior muscles of the body

(b) *Matsyendrasana* The twisting of the spine is accomplished alternately on both the left and the



FIG 30
Matsyendrasana (from left)

Exercising the Vertebral Column

right sides (bringing into play the corresponding left and the right legs) by matsyendrāsana (a posture so termed after the name of the great yogin Matsyendra). The complete technique, as illustrated in Fig 30, involves great difficulty and it is advisable, in the beginning, to try only its primary stages known as *ardha matsyendrasana*. This is practised as follows

Press the left heel against the perinaeum and keep the left leg resting on the floor. Do not allow the knee to rise from the ground. Now, pull the right leg and interlock it against the opposite thigh. Place the right knee under the left arm pit, and twist the whole trunk laterally towards the right, catching hold of the left knee with the left palm. With an effort of extreme twist, hold the left thigh with the right hand (swinging the arm behind the back and then tugging with fingers at the groin). Keep the neck straight but slightly turned towards the right shoulder. The practice is not so difficult as it looks in Fig 31, and a few attempts are expected to give complete success. Repeat this alternately, using the right heel with a twist on the left side.

This practice compliments the effects of *paścimottānasana* by the extreme left and right twist of the spine. It is agreed that such lateral movements of the spine have great mechanical advantages viz., removal of lateral curvature of spine, improvement in the displacements of the joints of the pelvic region

Care of the Brain and Nervous System

etc Moreover, it gives massage (by reverse stretching) and exercise to all the important muscles of the spine,

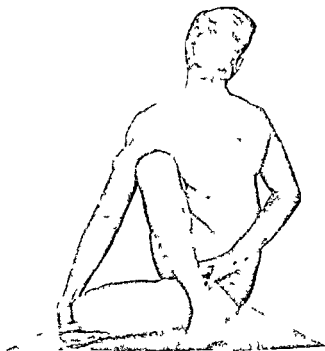


FIG 31

Ardha Matsyendrasana (back view) showing the lateral twist of the spine

and increases spinal and circulatory activities. Beyond doubt, it loosens up the articulations of the spine,

The Hygienic Time Table

adjusts any subluxations of the vertebræ and thereby gives the spinal nerves free play¹.

The Hygienic Time Table (Section VIII)

§ 11. The following table is expected to guide adjustments with regards to the various processes hereinabove given in sequel, time and frequency:

Organ	Yoga method	Frequency	Time
The brain & nerves	<i>Dhāraṇā</i> (concentration)	morning and evening	10 minutes
" "	<i>Śaiśāna</i>	"	5 "
" "	<i>Paścimottanāsana</i>	" "	2 "
" "	<i>Ardha matsyendrāsana</i>	" "	3 "

Among the other postures treated elsewhere in this work, there are certain poses that impart health also to the nervous system, e. g. *dhanurākrāsana*, *śīrāsana* and *sarvāṅgāsana*. It is also beneficial to incorporate the slow rhythmic yoga breathing methods

¹ Students of Osteopathy and Chiropractic may realize this pose as one of exceptional value in treating spinal adjustments.

CHAPTER XI

CARE OF THE SKIN AND ITS APPENDAGES¹

Bathing in the early morning brings on cold and should therefore be avoided by a yogin

Hatha yoga pradipika with *Jyotsna* I, 61

THE skin is composed of two layers—a superficial thin layer (*epidermis*) and the deep layer (*derma cutis*) which is the true skin. The superficial layer is readily separable e.g. by the fluid of an ordinary blister the upper skin is raised. The chief function of the surface skin is to give protection to the true skin below and to maintain its normal softness and pliability. In the epidermis, there is a constant production of new cells taking the place of other cells which are pushed towards the surface and finally shed by the skin. This process of de-quamation (in the

¹ There are no special suggestions on this subject in the practical yoga treatises. It is therefore possible to base the essentials of this section only upon an observation of the habits of the yogins with respect to the care of the skin, hair, nails, etc. Modern hygiene has covered this field pretty thoroughly and it is needless to enter into any elaborate details on this subject.

Care of the Skin and Its Appendages

superficial skin) is constantly taking place and the hygiene of the skin consists partly in aiding this process

Skin An Organ of Sensation

§1 The true skin is the organ of sensation and the nerve endings giving rise to sense complexes are contained in this. To the yogins, the skin is one of the external organs of perception i. e. the sense of touch (*sparsendriya*) with the preponderance of earth elements¹. Roehring has well illustrated the importance of the skin as an organ of sense by the statement that, next to sight the sense of touch is the most important of all the senses. Again the enormous importance of the skin as an organ of sensation is exemplified by the pathologic conditions which accompany loss of reflex sensibility. Different portions of the cutaneous area present however according to Goldscheider, variations in sensitiveness².

The Functions of the Skin

§2 Apart from being an organ of sensation, the skin functions in many important capacities, viz (a) protection, (b) heat regulation, (c) respiration and (d) elimination

¹ Cf. for bio chemical classifications of the elements *Amaraṅghaśāstra* attributed to Gorakṣanātha p. 6

² Cf. *Archiv für Physiologie* 1885

The Functions of the Skin

(a) *Protection* The skin acts as a protective organ by mechanically covering and so defending the internal structure from direct exposure, infection or other external violence. Also, by virtue of its being an organ of sensation, it adopts itself to changes and local disturbances and, thus, prepares the entire system for defence

(b) *Heat Regulation* It is the skin which adjusts itself to atmospheric changes and, to a large extent, regulates the normal temperature of the body¹ For example, when the surrounding air is much warmer than the body, the vessels of the skin dilate, free perspiration takes place, and by its evaporation, the body becomes cooled When, however, the air is cooler than the body the blood-vessels contract and retain the warmth of the body by lessening the amount of blood in the skin to be cooled.

(c) *Respiration* Contrary to the popular belief that only the lungs breathe, it may be pointed out that a respiratory interchange of gases occurs also through the skin. Dr Woods Hutchinson points a way

¹ Treating of the skin as a heat regulator Baruch observes that "this is the most important function of the skin To the human organism the maintenance of the body temperature is of paramount importance and the contribution of the skin to this process is indispensable . Cf *Hydrotherapy*, by Simon Baruch M D p 27

Care of the Skin and Its Appendages

further and speaks even of the "skin heart" as a factor in the human circulation¹ With regard to skin respiration, Bischoff has shown that even while the total quantity of interchange (of air) is very small, the function, however, is extremely essential to the health of the body

(d) *Elimination* The skin is an organ of absorption as well as of excretion The process of absorption, however, is not so important as the process of excretion This has been recognized so long ago as the time of Galen. Of late, it has been realized by physiologists that the skin is *second in importance* to the kidneys (Picard) The action of the skin, therefore, is a great aid to the kidneys in the process of elimination of poisons from the body² If these systemic poisons (eliminated from the organism) are not removed by proper ventilation, bathing, etc they are reabsorbed into the system just as the poisonous exhalations of the lungs (when confined in a dark ill-ventilated room) Many clinical observations go to show that when this special function of elimination

¹ See *Boston Medical and Surgical Journal* November, 1897

² Baruch Unna and others further maintain that the most dangerous chemical elements are *really* eliminated by the skin—especially in those diseased conditions in which the kidneys become inadequate Compare Baruch's *Hydrotherapy* p 26

Diseases due to the Improper Care of the Skin

(through skin) is impaired, it gives rise to a number of diseases.

Diseases due to the Improper Care of the Skin

§3 The most common of these disturbances are chapped skin, dry and scaly skin, itching skin (*itchmite*), ringworm, etc. These eruptions could, however, be easily remedied by sun, air and water baths. The cutaneous infections and diseases (e g measles, chicken-pox etc) which really call for constitutional and radical treatment are those that come not only through exposure of the skin but through unhygienic conditions in many respects. Hives, for example, is really an indication of improper diet.

Lerch suggests that "before commencing [any kind of treatment], it is necessary to thoroughly clean mucous membrane and skin, 'the covering of the body proper'. Both are important organs, which prevent recovery and cause disease, if not kept clean. An abnormal mucous membrane is an open door to any infection"¹.

Need and Importance of Skin Hygiene

§4 The special characteristics and importance of the skin have been most poetically epitomized by

¹ Cf *Rational Therapy*, by Otto Lerch, A M Ph D, M. D., p 2

Care of the Skin and Its Appendages

Hutchinson thus "A tissue which is like silk to the touch, the most exquisitely beautiful surface in the universe to the eye and yet a wall of adamant against hostile attacks Impervious alike by virtue of its wonderful responsive vitality, to moisture and draught, cold and heat electrical changes hostile bacteria, the most virulent of poisons and the deadliest of gases, it is one of the real wonders of the world"¹

In many diseases, it is possible even to diagnose the nature of an ailment from colour of the skin e g jaundice, and this shows most certainly the intimate relation of the skin to the activities of the internal organs²

Again, as outlined in the various functions of the skin, it is evident that the skin contributes greatly to our physical well being, and its hygienic considerations are, therefore, as essential as those of the other organs previously treated. It must, however, be emphasized here that the hygiene of the skin also involves a number of other considerations, prominent among which are food, exercise, bathing, etc which have been separately treated in the next chapter

world, namely, at Dresden, Carlsbad, Aix-les-bains, Salins-du-jura, Harrogate, Nantwich, Battle Creek etc depend largely upon the curative influence of sun, air, and water (and mud applied externally, at times and in some places). This adds considerably to the value of skin hygiene. Whether the exact scientific details were known to the yogins or not, one thing is certain that they fully realized the great value of sun, air and water baths and a casual use of mud packs for keeping the skin in its healthy condition. Of late, these have become the favourite means of cure (adopted both by physicians who are believers in Nature Cure Methods and by a large number of so called drugless healers).

The life of a yogin, in the mountains, offers him the most favourable conditions for sun and air baths. He exposes his body (all undressed) to the sun in the early mornings for two hours (between 6.30 A.M. to 8.30 A.M.), and retires to the shade when the sun has much greater heating power¹.

Air baths and ventilation of the skin are quite common to him for the very simple reason that a large area of his body (except for a T-shaped bandage on the loins) is always uncovered and the skin is thus

¹ Leonard Hill considers this to be safest period for exposure of the body to the sunlight and offers valid reasons for the same. See his *Sunshine and Open Air*, p. 92

Care of the Skin and Its Appendages

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Influence of Sun, Air, Water and Mud on the Skin

§ 5 Several of the largest sanitariums in the

¹ Cf. *Studies in Human and Comparative Pathology*, by Dr Woods Hutchinson

² It may be interesting here to record that Father Kneipp of Bavaria gave preference to skin examination as his favourite method of diagnosis. See *Meine Wasserkur*

Influence of Sun, Air, Water and Mud

world, namely, at Dresden, Carlsbad, Aix les bains, Salins-du jura, Harrogate, Nantwich, Battle Creek etc. depend largely upon the curative influence of sun, air, and water (and mud applied externally, at times and in some places) This adds considerably to the value of skin hygiene. Whether the exact scientific details were known to the yogins or not, one thing is certain that they fully realized the great value of sun, air and water baths and a casual use of mud packs for keeping the skin in its healthy condition. Of late, these have become the favourite means of cure (adopted both by physicians who are believers in Nature Cure Methods and by a large number of so called drugless healers)

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Care of the Skin and Its Appendages

constantly brought in direct touch with the atmospheric air. In course of time, this repetition of exposures to temperature insures the skin to bear changes. Surig and Lode offer us laboratory investigations to show that this adaptation to temperature impressions to a blunting of sensibility to heat or cold improves the physical regulation of heat (as distinguished from the chemical, which is due to tissue changes)¹.

The other interesting aspect of the yoga skin hygiene is the occasional use of mud packs and mud-washes. It is confirmed that the *black mud used by the yogins* is most soothing and stimulating, a veritable skin tonic².

Hair and Nails

§ 6. Cleanliness of the scalp is perhaps the most important measure of hair prophylaxis, as irritation

¹ Cf. *Archiv für Hygiene*, 39, 1901

² Messrs Griffin & Co of Springfield, Mass (U S. A.), who imported this variety of mud from India for commercial purposes and placed it in the market in two different packings (under *India Mud Pack* and *Facial Beautifier*) compute that "Experiments have since demonstrated that this mud is chemically much different from the so called Fuller's earth and contains to a certain degree some form of radio-activity and is, therefore, the superior to anything else for such purpose". Their literature Cf. above.

The Hygienic Time Table

by the landruff and other causes, many times, give rise to severe headaches and disturbances of the nervous system. The author is able to suggest from experience (of over fifteen years) that cleansing of the hair with the black mud is really more effective than mere washing with soap or shampooing powders or liquids. The activities necessary for the removal of mud supply the much needed massage, and thus stimulates surface circulation by friction.

The old-type yogins still follow the practice of rubbing the nails against a smooth stone for their removal. The cleanliness of these appendages is thoroughly observed through scrupulous washing of the extremities immediately after any unclean function of the body.

The Hygienic Time Table (Section IX)

§ 7. The following table represents the approximate time and frequency for the sun and air baths,

Organ	Yoga method	Frequency	Time
The skin " and hair	Sun bath	morning only	30 minutes
	Air	morning and evening	15 minutes
	Mud pack	once a week	20 minutes

Care of the Skin and Its Appendages

and the mud packs and washes suggested in chapter (considered necessary for the average person)

The above arrangements may be varied to suit individual requirements. During all baths, care should be taken to avoid chills or direct draughts upon the body, unless the same are taken in sunshine. Persons with weak constitution are cautioned to shorten the period of mud pack and mud washes.

CHAPTER XII

HYGIENE IN GENERAL

As an unbaked earthen pot is soon dissolved when placed in water so the body it must be strengthened and purified by the fire of Yoga (hygiene) in order to harden it

Ghera idasamlita I 8

EVEN though scrupulously observed, the mere care of the various organs (as outlined in the previous chapters) is not considered sufficiently fruitful and complete by the yogins without a strict observance of certain general matters in hygiene as the air, food, water, etc. These conditions do certainly exert such marked influence upon the health of an individual that even the slightest variations in respect of air, water, food, etc. cause abnormal conditions amongst the normally healthy. The well being of an individual, therefore, is really the totality of the care of all the different and vital organs individually and collectively, plus the necessary precautions in and observances of general hygiene.

There are diseases that attack an individual through air (from dust, dampness, poor ventilation, etc.), through food (if not well balanced, insufficient, improperly cooked or unclean), through water (when it is

Hygiene in General

dirty, impure, infected stagnant, etc) and through many other resources that cannot actually be ascribed to neglect of personal prophylaxis with regard to different organs and their purification. These considerations are therefore, grouped under the common term of *Hygiene in General* (some of these factors forming a part of public or domestic hygiene)

In matters of general hygiene, the yogin, of course, is concerned more about himself than about the generality, and his suggestions in these respects, thus are principally guided by consideration of individual hygiene. It is, however, really interesting to note that the yogins have not overlooked the matter of general hygiene, but, on the contrary, have given this matter their closest attention and have succeeded in forming a tentative scheme of hygienic living which, interpreted in modern terms may be found both rational and scientific.

Air

§ 1. Air is biologically considered the first necessity of life, for we may live without food for weeks and without water for days, but we certainly cannot live without air for more than a few minutes. The question of air supply is, therefore, of greater importance than even our water or food supply, and good ventilation thus becomes the first rule of hygiene.

*The most important features of ventilation are

motion, coolness and the proper degree of humidity and freshness'¹ For separate considerations, these may be classified as (a) climate, (b) housing, (c) clothing, (d) out of door living, and (e) breathing

(a) *Climate* The yogins favour temperate climate i e neither too hot nor too cold for the extremes of temperature cause physiological disturbances which they should try to avoid Also places either too high (like mountains) or too low (below the sea level) are considered unsuited for the practice of Yoga Barcroft has pointed out that the partial pressure or concentration of oxygen (as also of carbon dioxide) in the alveolar air varies considerably at higher altitudes and causes exaggeration in pulse rates (a consequent increase leading to activity of the vital organs which the yogin should avoid to gain physical control and mental concentration) On the contrary, an increase in the depth of respiration which the yogin contemplates is best aided by an altitude sufficiently higher than at the sea level Between these two extremes, the yogins suggest a place which is neither too high nor too low i e about 1600 to 2000 feet above the sea level²

¹ See *How to Live* p 7

² These may be termed moderate levels Pyle considers these levels excellent for delicate people and persons engaged in sedentary occupation The air in these regions is considered relatively pure Cf *Personal Hygiene* by Dr W L Pyle p 136

Hygiene in General

Besides this, the chief requisite of a good climate is the opportunity it offers to live out of door as much as possible. These *moderate let lagun* are therefore, best suited for such purposes as they offer uniform temperature (kellās)

(b) *Housing* Next to climate comes the housing proposition. This has an intimate relation to health which can hardly be overlooked for morbidity and mortality are generally governed by housing influences. While considering sanitation in house construction, it is essential to pay due attention to location¹. It has been observed by Gheranda that "the practice of Yoga should not be attempted in a far off country (from home), nor in a forest nor in a capital city, nor in the midst of a crowd. If one does so, he loses success. In a distant country, one is likely to lose faith (because of the Yoga not being known there) in a forest one is without protection, and in the midst of a thick population, there is the danger of exposure (for then the curious will certainly trouble him). Therefore, let one avoid these three"²

The requisites of a proper location are that the same should be free and far from rocks water and fire³. Further, the location of the house itself should

¹ Cf *Gherandasamhita* V 2

² *Ibid* V 3 ff

³ The commentator elaborates that These are sanitary con

f sufficient elevation to admit abundant supply of
 1 air and sunlight

According to Svatmarama, Yājñavalkya and others,
 approximate size of a room for the yogin is
 elated to be 9×12×12 feet which would contain
 amount of cubic space (an average being taken at
 1 cubic feet, after Bergey) required for an adult
 atched roof of the yogin's hut really secures the
 ssary dryness by its hygroscopic property in damp
 her (dried by free ventilation and sunshine) and
 contributes largely to the stock of infra red or
 : radiant heat considered so essential for the
 th of an individual¹

Surprisingly enough, while the yogins hold pessim-
 ic attitude towards life, the wealth of natural
 ery and gardens, however, has a great attraction
 them Both Yājñavalkya and the author of
śiṣyaprasaṅga agree that the monastery of a
 n should be surrounded by the most delicate
 er gardens and groves with large shady trees

ations not to be passed over lightly by any one who wants
 arsue the arduous course of Yoga By water is meant
 mess by fire is meant earthquakes or volcanoes and
 s mean jungle habited by insects reptiles and tigers etc.

Īśvarāyoga-pratīpika I 12

Leonard Hill considers infra red rays and radiant heat as the
 requisite towards good health See his *Sunlight and Open*
 pp 24 ff

Hygiene in General

encircling the compound and a stream of clear water flowing near his premises. It is further considered essential that at such places Nature herself should be so abundantly beautiful that the eyes of the yogin resting upon such scenery might become calm and concentrated even by the very sight of it¹

Constant and natural disinfection (with a view to avoid insects and germ laden atmosphere) of such a hermitage is thought imperative and must be secured through scrupulous cleansing dusting and smearing of the entire surface with cowdung (a supposedly strong disinfectant by itself serving the purpose of an ordinary white washing) every day

To maintain uniform temperature and further to avoid direct drafts, ventilation is secured not through windows (which are not recommended) but through an entrance door (mostly kept open at all times) with an eastern exposure

For an individual these sanitary considerations of the yoga system of housing etc are quite sufficient remembering the fact that a yogin is advised to live alone (*ekante*) and has thus a separate hut to himself. Rosenau considers the detached one man dwelling with ample space all around it as *the most ideal housing* for it avoids overcrowding and stands as the best preventive measure against infection and disease

¹ Cf. *Haṭhayantra* with *Jyotiḥ* a I 13 *Yogasastra* V 5 C ff

(c) *Clothing*. Modern investigations in air-hygiene teach us the need of fresh air and ventilation which really concerns the skin as much as the lungs. The hygiene of clothing, therefore, assumes a new and hitherto unsuspected importance. This includes ventilation, freedom from pressure, moderate warmth and cleanliness. The yogins, while generally undressed except for a piece of cloth over the loins (an ideal of the modern natural living and Nature Colomes), prefer the use of loose porous garments like the togas and robes, in cold and damp weather only, mostly prepared from cotton or silk¹. These are always loose and thin in texture, porous, light in weight and easily washable². These are carefully washed every day after they have been used once, and dried in open sunshine. Light colours such as white, yellow and saffron which absorb fewest of the heat rays of the sun are usually selected for such dresses³.

(d) *Outdoor Living*. Except for the periods of meditation and secret practices of Yoga, a yogin passes

¹ Kellogg maintains that cotton is unquestionably the best fabric for contact with the skin. Silk comes next for it is less irritating than other fabrics. Cf. *The Health Question Box*, p. 470.

² See *Suksamhita*, III. 40.

³ It may be observed that these (as noticed above) are considered the *most suitable* colours for the tropical countries by Rolher.

Hygiene 11 General

the rest of his time in the study of Nature and out of door pursuits viz gardening picking of fruits and flowers, walking (long journeys are not allowed) etc It is agreed that the air of even the best ventilated houses is *not as good* as outdoor air and the yogins, spending a large part of their time in open air and sunshine, enjoy the best health and the greatest longevity

(e) *Breathing* The interchange of air in ordinary breathing is very poor and a much larger percentage can be exchanged by efforts at conscious deep breathing (as taught by the practical Yoga) Apart from the oxygen value it helps to equalize the circulation of blood throughout the body, by bringing into action the unused abdominal muscles Yoga breathing has also very great sedative nervous effect which aids mental composure This subject however, has been previously treated (Ch VIII) in the essentials and needs no further emphasis except for the fact that the yoga methods of deep breathing really contribute much towards proper ventilation of the lungs and are therefore *the superior* to the ordinary modes of breathing widely taught either by the physical culturists or the modern scientific students

Food

§2 It is only recently that the modern scientists have found it needful to pay critical attention to this

all-important subject. Crile, Friedenbergl, Carlson and others have succeeded in proving through laboratory tests that the proper adjustment of diet not only cures and prevents certain diseases but may *even prolong human life*; and, further that with a change in diet, it is quite possible to change even the character of an individual.

Banedit, Hindhede and others brought forward the philosophy of fuel-units (an appendix to the already existing knowledge of food value) called calories to measure the quantity of food necessary for the support of an individual during twenty four hours. The calorific requirements vary with each individual, according to the sex, age, weight, occupation and a number of other minor factors. It has, however, been observed that any food either too rich or too poor in calories and over or below the average requirements of an individual causes physiological disturbances.

It is, therefore, easy to realize that both (a) the quality of food as well as (b) the quantity of food play an important part in the well-being of an individual and thus need consideration. The yogins, fortunately, realized both these issues, and while they have failed to philosophize the details in terms of proteins and carbohydrates, calories and vitamins, they certainly have handed us their experience of ages on dietetics which, in the light of our modern

Hygiene in General

knowledge on this subject, may be found scientifically correct (more so, when judged from their own standard of living)

(a) *Quality of food* The yogins hold irrespective of their principle of non injury that man is really a herbivore frugivorous animal. That a meat diet is *unsuited* to human digestion, and that it causes more diseases than a mixed or a purely vegetable or fruit diet has been established through recent experiments. Lusk, Rubner, McCollum and their colleagues have, through their laborious tests and practical experimentations, proved beyond doubt that the users of low protein and the non flesh dietaries *have far greater endurance* than those who are accustomed to the ordinary high protein and full flesh or mixed dietary. Similar results have been broadcasted by various investigators in Germany, England, Porto Rico and many other places. Consequently, modern authorities on dietetics now advocate most strongly the *exclusive* use of dairy products, vegetables, fruits and nuts as the *ideal food* for man (Kelllogg)

Even among the vegetables and fruits, the yogins give preference only to certain varieties which they consider exceptionally valuable to the sedentary life of a yogin. For this reason the food stuffs which are pure, agreeable, sweet, nourishing and easily digestible become generally recommended. Thus (i) with regard to the dairy product and sweets, a yogin may

Food

partake of fresh milk, milk-products, honey and sugar, (ii) among the cereals, he is allowed to select from wheat, barley and rice¹, (iii) in the leguminosæ, he can choose from *Phaseolus mungo* and *Phaseolus radiatus*², (iv) in the vegetables and herbs, he may have eggplant,³ cucumbers (all varieties), okra (*Hibiscus esculentus*) and *Luffa acutangula*, with a liberal use of fresh green leaves of spinach, sprouts and the five potherbs³ (more or less similar to lettuce, celery, etc) which are considered to be the best food for a vegin, (v) among the roots, he should confine himself only to the medicinal roots (certain types more or less similar to carrots), and (vi) among the fruits, he may have mango, jack-fruit, *Arum colocasia*, certain types of berries, jujube, fig plantain, dates, rose apple, etc

¹ An occasional use of corn is recommended by Gorakṣa. Compare his observations in *Saṁhita* (MS.) p 18

² Gheraṇḍa and Svātmaśrama further recommend the use (at times) of Bengal gram and Boston beans possibly with a view to cover the protein deficit when deemed necessary

³ These are (i) *Mentha glabra* or *jīrānti* (ii) *Chenopodium album* or *eastumula* (iii) *Boerhaavia diffusa* *alata* or *pūṇamarcā*, (iv) *Amaranthus polygamus* or *mejjhapaṭṭi*, and (v) *Amaranthus spinosus* or *lantlantiyi*. Besides these, he is also allowed (according to some authorities) *Hingsha repens* or *hīlamocikā* *Cassia sophera* or *lululāsunda* and *Trichosanthes dioica* or *patola*

Hygiene in General

No spices are allowed to a yogin¹ as they have been found stimulating. Even the use of common salt is considered prejudicial to health² (possibly because the vegetables recommended are sufficiently rich—and some of them exceptionally rich—in mineral salts³). Highly seasoned stuffs and stimulating drinks are considered unsalutary to a yogin. Things that are sharp, sour, pungent, bitter and heating are likewise prohibited.

Apart from the use of fresh green vegetable leaves and fruits (raw), the food that having been once cooked has grown cold and is heated again is considered unhealthy. Again, roasted things, deprived of their natural aliments, are among the prohibited foods.

From the above list of the yoga dietary and other

¹ Ginger and turmeric are allowed at times. Cf. *Hat'ayoga pradiśika* with *Jyotana* I 62.

² Salt is looked upon as positively injurious to health (See *Ibid* 59 ff.) and actually unnecessary. It is a known fact that to hibernating animals (bearing in mind that a yogin attempts at conscious hibernation) salt water or salt is poisonous or fatal e.g. the *Lacerta aquatica* (Paul).

³ Again the vegetarian whose daily dietary contains a liberal amount of uncooked fruits and vegetables and only moderate amount of protein and starches has no need and no desire for inorganic table salt. For further discussion on 'To Salt or Not to Salt', see *Natural Dietetics* by Mrs. Anna and Henry Lindlahr M.D. p. 449 ff.

Food

hygienic precautions, it becomes quite evident that a well-balanced *purely vegetarian diet* is preferred to either a mixed or full flesh diet. Its specific advantages are (i) that it is usually *easily digestible*, (ii) that when selected in a proper combination it satisfactorily and completely fulfills the average requirements of an individual, and (iii) therefore forms the *most ideal food* especially for those engaged in mental pursuits (leading a somewhat sedentary life)¹. Moreover, the varieties recommended leave ample scope for the necessary selection and combination of the dairy products, cereals, vegetables, fruits, etc all of which have been so chosen as to contain the highest nutritive value, agreeable taste and medicinal qualities. Metchnikoff, Chittenden and others may find it surprising that the importance of balancing the ration (fat, protein, carbohydrates, cellulose, organic mineral salts etc), whether in terms of calories or vitamins, had been long recognized by the observing yogins, and that the modern investigations in dietetics only

¹ It has been also observed by scientists that a purely vegetable diet diminishes the waste of the animal economy (the object of a yogin in personal prophylaxis) for whereas the specific number (indicating waste in a given time) in man living on a vegetable diet is 1000 it is 1445 in the case of one accustomed to a mixed diet and 2367 in the case of one using a full flesh diet. Cf Dr N C Paul's *A Treatise on the Yoga Philosophy*, p 18

Hygiene in General

go to confirm their age-old findings to be scientifically true. In short, the diet of a yogin fulfills all the requirements of an ideal food for man in the light of our most modern knowledge on this subject

(b) *Quantity of Food* No definite weight can be put down arbitrarily to measure the exact volume of food requirements for if it once agrees to the caloric standard, it might be found unsuitable in some other respects. The yogins, therefore, consider it advisable to leave the entire matter to the judgment of a healthy and non-perverted stomach¹. Moderation (*mitahāra*²) in diet, however, is emphasized as the guiding line i. e. to eat *no more* or *less* than what is absolutely necessary to satisfy one's appetite³.

Three meals a day are considered sufficient for a yogin. Thus, he should have a light breakfast at 8.30 A. M., his lunch at 1 P. M. and his dinner at 6.30 P. M. Between the intervals of the principal meals, he is advised not to eat anything. Fasting or

¹ It is stated that a yogin may partake of the food *according to his desire*. Compare the exact and uniform wordings both in *Hathayogapradīpikā*, I 62 and *Gherāndasamhitā*, V, 29

² This is interpreted by the authors of almost all the yoga treatises to mean that half the stomach should be filled with food (about 142 grammes at each meal) leaving one quarter of stomach space for water and one quarter for air. The details in *Maṇḍanīyapurāṇa* (39 ff) are quite elaborate

³ Cf. *Yogacintāmaṇi* (MS) p 7

Water

even eating once a day (*nakta bhajana*) is considered injurious to the body, in the same sense as it is injurious to fill the stomach before the food has passed through the pylorus i. e. within an interval of four hours¹ A yogin should, therefore, refrain from these observances

Water

§ 3 Second in importance to air, water may be considered a prime necessity of life Apart from being an essential article of diet (even though not classed as such), its various uses for cleanliness make the need for abundant and pure water supply a matter of utmost consideration² The yogins, however, have not overlooked this all important subject For this, they suggest two measures first, to select a location not very far from a spring or a river, and second, to sink a well within the premises of the yoga monastery Both these measures assure him of unfailing and abundant supply³ of water

¹ Cf *Gheranīśamhitā* V 31, *Yogasāra* p 15

² Further, it is needless to emphasize that ill health and a large number of diseases (like typhoid fever cholera, dysentery, etc.) are easily traced to impure water Not only that the use of a better water reduces the chances of gastro intestinal disorders, but it *positively* helps to avoid and *overcome* a large number of other diseases as well (Reincke)

³ It may be observed that places where there is not abundant

Hygiene in General

As to the purity of water (a very great hygienic consideration) Rosenau observes that Pure water is a chemical curiosity *it does not exist in Nature* (p 929) However it is a matter of general knowledge in sanitation that both spring water and river water (flowing over an uninhabited rocky soil) as a rule are of a high degree of purity, & free from organic impurities (Hazen) Again if sufficiently deep the well water (usually clear and of high sanitary quality) furnishes the safest and most satisfactory sources of supply we have¹

The uses of water may be classified as (a) the internal uses of water, and (b) the external uses of water

(a) *Internal Uses of Water* The common internal uses of water are drinking (its use in cooking being secondary), and purposes of purification There are, however, no specific instructions in the practical yoga treatises concerning the quantity of water to be taken each day the matter having been left to individual need (subject to natural requirements) Only it has been observed that one quarter of the space in the stomach is to be kept free at the time of meals for drinks (when necessary)

provision for water or food supply are considered unfit localities for a yogin and in such instances he is advised to leave such places for a better location where he should make his final abode Cf *Gherandasamhita* V 5 6 ff

¹ See Kellogg's *The Health Question Box* p 537

Water

As to frequency with which it should be administered, it is stated that during meals the drinking of water is considered injurious to health. I know of a certain special practice of the yogins (which may prove useful to some), namely, before defecation, they usually drink about a pint of water—especially in the early morning at 4 A M—before they begin their daily duties. This may be done with a view to wash down, as it were, the residues of the alimentary canal and thus also to incidentally facilitate evacuation.

The *internal cleanliness* which to a yogin is a matter of daily religious or more correctly a hygienic duty involves the use of over half a gallon of water taken internally for the purification of the nose, stomach, intestines and the bladder¹

(b) *External Uses of Water* Chief among the external uses of water may be mentioned the cleanliness of person, clothing and things. Excluding the hydrotherapeutic measures for curing diseases (which require a very large quantity of water), the common use of water for personal cleanliness is a daily skin-bath (other than what may be termed internal baths). That a daily skin-bath is extremely essential for health can hardly be denied.

It is quite unusual (and considered unbecoming)

¹ Details of these processes have been discussed in this and other volumes.

Hygiene in General

for a yogin to pass even a single day without having his regular bath. As a matter of fact he seldom takes his meals without first having his ablution. The time between 7 A. M. to 8 A. M. (just after sunrise) is considered most suitable for this purpose. Frequent baths are believed to be injurious, so also too early baths (between 4 A. M. to 5 A. M.) generally observed by the other religious sects in India. Again cold baths are not recommended, but temperate (78° F.) or tepid (87° F.) baths are neither too hot nor too cold (*atīśiṭoṣṇam*) are favoured for they are found to be best suited to persons engaged in sedentary habits (Lerch). Apart from the use of water during a bath, a vigorous rub down is followed to remove the impurities deposited on the skin. This also aids surface circulation and supplies necessary exercise and massage to the body.

Activity

§ 4. Hygiene teaches us that it is not possible to live healthy without engaging one's mind and body in some form of activity. Disused body and mind become atrophied, so to say, in course of time, and differ, if at all, very little from lifeless objects. Even though to all appearances inactive (especially to outside observers), the life of a yogin is really quite busy. His daily curriculum may be divided into (a) work and (b) rest.

(a) *Work* Among the mental activities of a yogin

may be mentioned study, namely, religious (scriptures etc), philosophical (metaphysical systems of thought and other intellectual pursuits), and physiological (investigations in human anatomy and physiology etc)¹, and active engagement in concentration and physical exercises of a varied nature (hygiene etc mentioned in this work, and curative and constructive processes elaborated elsewhere in the volumes of this series)

His outdoor work comprises gardening, walking (short journeys) and sometimes² household duties e.g. cooking, washing of clothes and vessels etc. Hard work (leading to a state of nervous or muscular exhaustion) either mental or physical is prohibited at all times, and, further, he is strictly advised to limit his activities only in light pursuits. Prevention of

¹ In ancient India dissection of the body (dead) was more or less compulsory for two classes of people viz. the *gopur* and the physicians. Thus the great ancient medical author of the Hindus Susruta says that *a yogin should dissect in order that he may know the different parts of the human body*. Cf. Wilson's Commentary on *The Hindu Medicine* p. 48 also compare *The Anatomy of the Tantras* by V. R. Gandhi p. 233 also the Chapter on *Anatomy and Physiology* in Vol. IV of this series.

² A yogin who has a large following is generously attended for his personal requirements by his disciples and is thus relieved of much of the manual work that the beginner has to undergo. A married yogin similarly has less household responsibilities.

Hygiene in General

overstrain (a modern disease) and monotony is secured by intervals of rest and varieties of engagements.

(b) *Rest* Two great forms of inactivity viz., rest and sleep are equally essential (in contrast with usual activities) to health.

From 7 A. M. till 11 A. M. a yogin is busy with his studies and personal care (e.g. attending the toilet duties etc.) Then an interval of two to three hours i.e. up to 2 P. M. is utilized to rest (relaxation) or recreation. From 2 P. M. until sunset (about 6.30 P. M.) he is again busy with his usual pursuits. He seldom makes use of artificial light and passes his late evening hours in deep contemplation. He finally retires to bed at about 10 P. M. and enjoys an average of nine hours of undisturbed and dreamless sleep. Hard bed of straw or *lusa* grass wool or a deer skin is generally preferred to soft cotton or feather beds probably with a view to preserve uniform temperature of the body without any corresponding loss of heat.

Time

§5 Climatic considerations have also not been overlooked, to facilitate the study of Yoga and it has been found that the beginning of all yoga processes in certain seasons produce better results than at other times¹. In order, therefore, to receive the full measure

¹ Certain seasons have been specifically mentioned as pre-

Conclusion

of benefit from the yoga practices, the aid of Nature is sought i. e. in form of proper selection of time and season best suited for such an undertaking. Winter (November, December, January and February), summer (May, June) and monsoon (July, August) are considered absolutely unsuited for *commencing* the practice of Yoga, most likely because they represent extremes of climate and too sudden atmospheric changes (in case of the latter). The beginner¹, therefore, is advised to start his studies only during springtime (March, April) or in autumn (September, October) when the climatic conditions are usually normal and uniform in temperature.

Conclusion

§6 Leaving aside the needless exercises of ingenuity (expressions in terms of an exact science), the advancement of *yoga personal hygiene*, its antiquity, its singularly natural methods of application (self-treatment) as a preventive and hygienic measure is

ducing deleterious effects upon the general health. Cf *Gherandasamhita*, V, 8 ff.

¹ Those already initiated into the yoga practices at the proper time (season) and engaged in daily care of the body need not apprehend evil effects. They may therefore continue their practice irrespective of the change in season or in climate. The precaution in respect of time herein outlined is principally limited to the beginners with a definite view to ease their entry into a new scheme of living.

Hygiene in General

sufficient to convince any unprejudiced student of its wholesome completeness in personal prophylaxis

With a little corroborative study (in the light of modern sciences) of the various purificatory means suggested herein, it will become evident that the entire code of personal hygiene as taught by Yoga is profoundly scientific and wholesome

Further it need hardly be emphasized that there should be no misapprehension about these yoga exercises doing any possible harm, if followed out intelligently and in conformity with the instructions given throughout this work

In our present age of drudgery, nervous irritation and unnatural way of living, the scientific type of a yogin (observing the yoga methods in all the essential details) is really a hygienic curiosity far above the standard of modern life, but perchance an ideal of utmost significance contributing much towards the essentially practical measures for longevity. Under these conditions, it can hardly be doubted why *any man*, following such a strict code of biological living and internal purification, *should not live* more than a *hundred years*

Even though strictly individual and self-contained (excluding considerations on public or domestic hygiene), followed only by a selected type of yogins in its highest technique with regularity, the yoga hygiene literally stands first as an ideal of purely hygienic

Conclusion

living If incorporated in the daily duties of an individual (to whatever extent it is practicable or possible to be introduced in our modern ways of living), these health measures of the ancient yogins *are sure to prove useful* in prolonging human life—the chief object of all our sciences and the sum total of all human endeavours

SANSKRIT GLOSSARY

A

Adhvasana, n. any prostrate position of the body [Y] a posture similar to Makarasana, the lying-on the stomach pose with the hands and legs fully stretched out and relaxed

agni, n. fire

amṛta, n. nectar ambrosia [Y.] the secretion of some important part in the brain

Anulomaviloma, adj. alternate [Y] **n.** the method of breathing consisting of eight by processes in one complete breath same as Suryabhedana

apa, n. water

ardha, adj. half partial

Astisiddhi, n. the eight supernatural powers which a yogin is supposed to gain through the practice of Yoga

Asvini, n. a mare [Y] the higher process of stimulating the anal action of a mare one of the twenty four mudras

atisotosnam, adj. either too hot or too cold

Āsana, n. a posture [Y] any definite pose of the body the third accessory of Yoga

B

Bahishkṛtidhouthi, n. [Y] the process of purification of the large intestines after their removal from the posterior part of the body

Basti, n. an enema [Y] the process of cleansing the intestines either with an oil or water

Bhadrasana, n. a gentle posture [Y] the happy pose with a crosswise position of the heels and hands keeping

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B

Bahiskrtadhouti n. [Y] the process of purification of the large intestines after their removal from the posterior part of the body

Basti n an enema [Y] the process of cleansing the intestines either with air or water

Bhadrasana, n a gentle posture [Y] the happy pose with a crosswise position of the heels and hands keeping

Sanskrit Glossary

the body straight and at right angles with the ground

Bhramadhyatrataka, n [Y]

the process of gazing on the space between the eye brows

bhojanante, adv just after the meal

brahmacarya, n. continence chastity abstinence from any sort of sexual indulgence

Brahmadātana, n literally a toothbrush for the Gods [Y] the peculiar instrument used for a stomach wash the process of cleansing the stomach with an instrument of the same name

Brahmajñāna, n. divine knowledge, [Y] the knowledge unveiling the reality of Brahman

Buddhist Yoga, n. the system of Yoga or self culture belonging to Buddhism (500 B C)

C

Chakrasana, n. a wheel pose [Y] the convex concave posture for circular stretching of the spine (concave) and abdomen (convex)

candīa n. the moon [Y] the left nostril adj left negative lunar

Candradhvana, n the process of concentration on the moon [Y] the moon gazing

Candranadī, n [Y] the left nostril the left ganglionated cord of the sympathetic nervous system the nerve conducting the negative electro magnetic current

capalaspada, adj swift as lightning n. [Y] the flying energy in the body Same as Prana

citīśakti, n. consciousness intelligence

citta, n the mind stuff

cittavṛtti, n. mental modifications

D

dakṣiṇa, adj pertaining to or concerning the right side

Dakṣinajatrutataka, n. [Y] the process of gazing on the end of the right collar bone

Dantadhūti, n. [Y] the method for purification of the teeth and mouth the

hygiene of the teeth mouth
ear and the air sinuses

datana, n. a dental wood
stick a toothbrush

dehasuddhi, n. purification
of the body

Dhanuvakrasana, n. a bow
curve pose [Y] the posture
imitating the curvature of
a bow

dharana, n. a mental effort
in selecting one object out
of many for concentration
[Y] the sixth accessory of
Yoga

Dhouti, n. internal cleansing
a douche a stomach wash
[Y] the cloth of specified
dimension used for cleansing
the food tube and the
stomach the process in
which such a cloth is used.

dhyana, n. gazing contem-
plation, [Y] the seventh
accessory of Yoga.

Dradhasana, n. a firm pose
[Y] the posture with a
right side incline consider-
ed most suitable for sleep-
ing

dvandva, n. the pairs of the
opposite duality adj op-
posite

E

ekante, adv lonely alone

(r

Gajakarapi, n. a stomach
wash after the fashion of
an elephant [Y] the pro-
cess of throwing out water
by the mouth after having
drunk a good quantity of
the same Same as Vama
nidhouti

Gajakarma, n. Also Gaja
karani

Ghr̥ṣṇananti, n. [Y] the
process for dilatation fri-
ction and rubbing of the
inner parts of the nasal
passage with textile probes
of increasing dimensions

Goraksasana, n. [Y] the
posture after the name of
the great yogin Goraksa
the yoga posture for stop-
ping nocturnal discharges

gr̥hastha n. a householder
a married man

H

Ha, n. [Y] the sun adj
solar right positive

Sanskrit Glossary

Hathi, n. force determination [Y] the sun and moon

Hathayoga n. a system of Yoga for care of the body [Y] physiological Yoga the body culture attempting harmony of the entire being union of the opposites

Halasana n. a plough pose [Y] the posture imitating the usual position of a plough by raising the body over the head and slowly touching the ground with toes keeping the hands fully extended

I

Ida, n. [Y] Same as Candri nadi

J

Jama Yoga, n. the system of Yoga or self culture belonging to Jainism

Jalabasti, n. a colon douche [Y] the water irrigation of the large intestines the colon flushing

Jalaneti, n. a nasal douche [Y] the process of cleansing the nasal canal with water

Jatru, n. the collar bone

Jivhamulasodhanam, n. [Y] the process of cleansing the root of the tongue

Jñāna Yoga n. the system of Yoga which preaches deliverance through the acquisition of the right kind of knowledge Same as Vedanta Yoga

K

Kafa, n. phlegm mucus [Y] one of the three main biological humours of the body

Kapalabhati, n. [Y] the process of cleansing the frontal air sinuses with air the method of oxygenation

Kapalarandhradhouti, n. [Y] the process of stimulating the circulation in the frontal air sinuses by external massage

karna, n. an ear

karnarandhra, n. the ear canal the ear cavity

Karnarandhradhouti, n. [Y] the process for irrigating the ear orifice

Kevala, adj. absolute total continuous.

Sanskrit Glossary

without its rolling manipulations

Nivama, n. 1 restraint [Y] the code of mental and ethical regulations the second accessory of Yoga

Neti, n. [Y] the process for nasal cleansing

P

paścima, adj posterior

Paścimatānāsana, n. [Y] the pose for the stretching of all the posterior muscles of the body

Paścimottanasana, n. Same as Paścimatanasana

Pingla, n. [Y] anything conducting a positive electro magnetic current in the human body, the right nostril also the right gangliated cord of the sympathetic nervous system

Pindasthadhyana, n. [J] any process of gazing or concentration upon a given form or object

prana, n. life, vitality, breath, [Y] bio motor force

pranavāyu, n. a nerve impulse

Prānāyama, n. regulation of

the respiratory movements, [Y] control of the bio-motor force a code of breathing exercises, the fourth accessory of Yoga.

prāṇiti, v. 1 lives or exists exclusively

Pratipakṣabhāvana, n. a negative contemplation, [Y] the code of mental, ethical and metaphysical reflections of the opposite

R

recaka, n. exhalation, expiration

reta, n. ovum

Rgveda, n. the more ancient of the four Vedas the earliest sacred writings of the Hindus (1000 B. C. according to Tilak)

S

Śavasana, n. 1 corpse pose [Y] the posture simulating the helpless and limp condition of a dead body

Sirasana, n. a head posture [Y] the posture with a topsy turvy position of body standing on the head

Sanskrit Glossary

śitakramā, adj relating to
or indicating cold

Śitakrama kapalabhātī, n.
[Y] the reverse process of
sniffing water through the
mouth and throwing it out
through both the nostrils

Sukra, n. sperm semen

sunyaka n. suspension of
breath

Śuska, adj dry unlubri-
cated [Y] Same as sthula.

sahasradala, n the braun [Y]
literally the thousand
petalled lotus

śamatva, n. equanimity

śamadhī, n a trance a state
of voluntary suspension of
sensation

Sarvaṅgāsana, n. an all body
pose [Y] the highly ele-
vated position of the body
resting on the back with
the feet up

Samānyaneti, n. [Y] the
process of cleansing the
air passages especially the
nasal canal with a twisted
cord

siddha, n a master yogin
adj perfected accomplished

Siddhasana, n a perfect
posture [Y] the favourite

triangular pose for medi-
tation and prayer

Siddha jalaneti, n. [Y] the
process of sniffing water
through one nostril and
throwing it out from the
other

spaisendriya, n. the sense
of touch

suṣumna, n [Y] the spinal
cord

sthula, adj rough gross [Y]
concerning or referring to
the uses of air

strīnam vajroli n vajroli
for the females

surya, n the sun [Y] the
right nostril adj right
positive solar

Suryabhedana, n [Y] the
process of alternate breath-
ing adj solar Same as
anulomaviloma

Suryadhyana, n [Y] the
process of concentration or
gazing on the sun

T

Tātaka, n any process for
the purification of the eye
a steady gaze without a
twinkle [Y] the system of
eye-gymnastics

Tantric, adj pertaining or relative to the Tantras or the secondary Systems of Indian Thought and writings

U

uddiyana n a flight

Uddiyana n [Y] the process of raising the diaphragm very high through a peculiar coordination of the abdominal and respiratory movements

V

Vajroli, n [Y] sexual hygiene in general the practice for controlling the output and discharge of sex fluids the process for irrigating the genital passages

Vamanadhouti, n [Y] the process for irrigating the stomach with water Same as *Gujakarani*

vama, adj pertaining to or concerning the left side

Vamajatrutataka, n [Y] the process of grazing on the end of the left collar bone

Varisara, n [Y] the method of water-bath for the alimentary canal by flushing

Vitakrama kapalabhati, n [Y] the process of clearing the air sinuses through oxidation

Vitasara n [Y] the process of air bath for the alimentary canal

vayu n air [Y] a nerve impulse

Vivubasti, n the dry cleansing of the intestines [Y] the process of passing a current of air in the intestines with a view to effect dry cleansing

vidhyunmāvilasā, n a display of a series of electric discharges [Y] the bio motor force Same as *prana*

visistajñāna, n Same as *Brahmajñāna*

Vedanta Yōga n the system of Yōga connected with Śankara Vedanta Same as *Jñāna Yōga*

Vikṣāṣana, n a tree posture [Y] the upside down posture of the body resting on the hands at full length

vyutkrama, adj inverted order n. [Y] the simple process of kapalabhati con

Sanskrit Glossary

sisting of water snuffing
through both the nostrils

position of a stuff lying
down

Y

Yama, n. an observance [Y]
the code of mental hygiene
forming the first accessory
of Yoga.

Yastikasana, n. a stiff pose
[Y] the lengthwise relaxed
posture resembling the

Yoga, n. one of the six main
Systems of Indian Thought
a science of self realization
the ultimate achievement of
life

yoga, adj relating to advo-
cated by or derived from
Yoga

yogin, n. one who follows
Yoga

INDEX

A

- Abbé Dubois 2
- abdomen
 compression of 133 142
 146 ff 224
 controlled 133 136 ff
 drawing in of 78 94 108 f
 137
 movements of 108
 protruded 146 f
- abdominal
 exercises 83 90 ff
 muscles 90 *n* 104 131 246
 stretching of 102 ff
 vacuum 90 117 ff
- Abelous 209
- accrution
 functional 61
 mental 168
- absorption 66 68 72 232
 of oxygen 145 ff
 of sexual fluids 194 ff
- abstraction 202 *n* 213
- A B C of our Own Nutrition*
 67 *n*
- activity of stomach 80 *n*
- acknowledgments
 personal 2
 scientific 20 f
- acromegaly 211 *n*
- activity 26 ff
 necessary for health 236
pleasant 218 220
- Adler 163 *n* 182
- adenoid 10 13 *n*
- 273
- adrenals effects of emulsion on
 211 *n*
- against 89
- in 240 *et seq*
- altitude and 241 f
- alveolar 140 147 ff 241
- atmospheric 147 ff 236
- cells 141 *n* 148 ff
- dead space 140
- hunger 126 ff
- hyaline 243 ff
- interchange of 237
- life quality of 138 150 *n*
- pure 241 *n*
- passages 12 45 121 ff 131
 151 ff
- care of 41 ff 120 ff
- quality and quantity of
 inhaled 124
- radiation of 12
- residual 148
- sic 122 ff
- sinuses 34 ff
 accessory 43 *n*
 care of Ch III
 frontal 34 ff
 massage for 35 ff
 method of cleansing of
 suppuration of 31 37
- supply 240 ff
- swallowing of 126
- tidal 148
- undiminished change in 108 *n*
- vital 126
- Alexander 233
- Albu 88
- alimentary canal 62 *et seq*
 purification of 66 ff

Index

- Allen 71
 alveoli 122 ff 142 ff
 amaranthus polygamus 249 n
 spinosa *ib*
 Amavau phasasana 230 n
 America 4 18 n
 physical culturist of 53 210
 Yoga Institute in 3 80 ff
 198 n
 American Brethren Mission
 Hospital 4
 American Journal of Physiology
 211 n
 amnesia 91
 amita 13
 Amritadipankas 136 n
 Amsten Dr., 3
 anatomy Yoga 257
 Anatomy of the Larynx
 I *ib*, 257 n
 Anderson Vincent 18 n
 Animal Magnetism 208 n
 animal magnetic currents
 negative 149 200
 positive *ib*
 anigust postures 92 ff
 antiperistalsis 117 ff
 antiperistaltic hypothesis
 false *ib*
 anomalousness 112 n
 anus contraction and ex-
 pulsion of 70
 Anusuya Yogini 185 n
 appetite 252
 increased 84
 Arabs, nomadic 217
 Archiv für Hygiene 256 n
 Archiv für Physiologie 230 n
 ardha Purnamasana, 94 f
 Aristotle 201 n
 Arnold Sir Edwin 212 n
 at 179 182
 artery inelastic 130
 artery sclerosis
 emotion and 211 n
 arthritis 26
 arm colocassia 249
 ascetic 81
 astasulhi 181
 asthma, 50 120
 a remarkable cure of
 160 161
 asura, 187
 asanmadra, 186 n
 Atkins 150 n
 Audh Chief of 57
 auticond 13 n
 auto intoxication 72 87 ff 209
 Auto intoxication in Disease
 89 n
 Auto intoxication of Industrial
 Origin 80 n, 88 n
 automatic environments 214
 Autonomic Functions and
 Personality The 169 n
 Ānandapradīti 121 n
 axon 50 et seq
 Ayana 102 n
- ## B
- Back to Methuselah 21
 Baconian phrase 5
 bacteria 25 29 41 234
 bahukruthanti 76 n
 Barcroft 241

Index

- barley, 249
 Barnett, 2
 Baruch, 231 *n*, 232 *n*
basti, 86 90 112 113 114 *ff*
 jala 89
 sthula, *ib*
 sūśka, *ib*
 rāyu, *ib*
 Bastin 202 *n*
 Basu, 2
 bath, 4
 ur 35, 159, 192 235 *ff*
 cold hip, 192 *n*
 cool 186, 191 *f*
 mud 235 *ff*
 skin, 235 *ff*, 256 *ff*
 steam, 159
 sun, 37 159, 234 *ff*
 warm, foot, 192 *n*
 water, 235 *ff*
 bathing, 232
 costume 132
 in morning 229
 proper time for, 256
 Battle Creek 235
 Bayliss 205
 burns, Boston, 249 *n*
 bed, requisite of a good 258
 Bell, Dr., 117
 Benedict, 247
 Berber, 217
 Bergez, 243
 Bergson, 165 *n*
 Berlin, a performance in 19
 Bernard, 140
 berry, 249
 Bertillon, 195 *n*
bhadrāsana, 188 *ff*
Bhagavadgītā, 61 *n*
Bhāgarata, 191
 Bhoja 124 *n*
bhujangāsana, 106
 bibliography 3
 Biggs 171
 Bilz 27 211 *n*
bindu 163
 Binet, 208 *n*
 Binger, 211 *n*
 biology 175
 bio motor force 120 *ff* 156 *ff*
 201
 birth control, 198 199 *n*
 Bischoff 232
 blood 69 98, 122 *et seq*
 arterialized volume of 145
 151 *ff*
 cells 122 *ff* 125 *n* 129 *ff*,
 187 210 246 *ff*
 red *ib*
 circulation of 18 42 52 63
 123 130 136 *n* 152 *et seq*
 corpuscles 129 *f*
 disturbances of 26
 drainage of 191 *ff*
 impulse, 70 *n*
 poisoning, 193 *n*
 supply, 52 96 125 *ff*
 Bloomingdale Hospital, 3
 body care of 4 5 15 *et seq*
Body Posture The 221 *n*
boḥiravira *diffusāṭa*, 249 *n*
 Bohar Yoga monastery at, 3
Boston Medical and Surgical
Journal, 232 *n*
 Bouchard 88 89 *n*
 Boutoux, 173
brahmachari, 184 *n*
brahmacharya 168 182 184 *f*
 197 *ff*

Index

- interpretation of 183 ff
brahmadatana 79 81
brahmapūṇa 182
Bṛhmanandā 186 "
Brahmasūtra 157 "
 brain 40 96 ff
 and breath 153
 and lungs 153 "
 and nervous system 47 102
 200 *et seq*
 is an organ of mind 203 ff
 is seat of the soul 201 "
 cure of the Ch X
 increase in infections of
 207 "
Brain as an Organ of Mind
 the 202 "
 brain, 81
 breath
 and prayer 120 ff 156 ff
 bad 18 f 30 37
 exercise for picking 157
 138 "
 foul 20
 negative influence of
 149 ff
 normal rhythm of 137 ff
 positive influence of 149 ff
 regulation 120 f 141 ff
 shortness of 36 211
Breathe and Be Well, 125 "
 131 " 152 "
 breathing 9 36 83 106
 120 *et seq*
 alternate 142 143 ff
 art of, 127, 128 ff
 as curative agent 125 ff
 complete act of 124 144 "
 153
 costal 132
 deep 121 f 124 ff
 Vs Yoga breathing 145
 et seq
 defective 127 128
 lynnic 216
 exercises 108 ff
 important organs of 120
 128 ff
 jerky and quick 133 138
 mouth 128 131
 natural impaired by 42
 normal 122
 Oriental method of 151 "
 rapid 36
 regulation of movements
 120 ff 141 ff
 rhythmic 132 155 ff
 vacuum 136 f
 Yoga 121 " 128 ff 136 *et seq*
Breathing Methods 103 " 131
 Brenton Harbour 109
British Journal of Dental
 Science 30 "
British Medical Journal 146 "
 bronchi 122
 bronchial tubes 122 166
 bronchitis 123
 Brubaker 153 "
 Brunton Sir Lauder 146 "
Brhadāraṇyaka, 183 "
 Buchanan Joseph Rhodes
 158 "
 Buddhism 9
 Buddhist Yoga, *ib*
 butter 32, 57
 Buva 186 "

C

- caliāsana* 84
 Calcutta University 116 "
 176 "

Index

- California Medical College 150 *n*
 calory, 247 248, 251 *f*
 canal purification 76 *n*
 Cannon 211 *n*
carica dhiana 55 *f*
 Carika 13 *n* 201 *n*
Caralasmrita 11 *n* 157 *n*
 carbon dioxide 122 *ff* 148 *ff*
 concentration of 141 *n*
 148 *ff* 241
 increase in the amount of 141
 removal of 142 145 148 *n*
 carbohydrate 247 *ff*
 Carlsbad 23 *n*
 Carlson 71 247
 Carmichael Medical College 176 *n*
 Carnel Dr 23
 Carrington 71
 carrots, 211
 cascade 89
 Cassiosophora 210 *n*
 castration 163 *n*
 catarrh
 chronic 45 *n*
 nasal 34 41 123
 passive state of 132
 remedy for 132
 catheter for cleansing genitals 192 *ff*
 cathry, 27 219
 cathrate 184 *n*
 cells 86
 aggregation of, 163
 conglomeration of 86
 immortal 23
 cellulose 251
 cereals 249 *ff*
 cerebro spinal
 muscles 223 *ff*
 system 201 *n* 203 *n*
 cerumen 34
 chastity 176 *n*
Chandoyy I p u r i t 188 *n*
 183 *n*
 Chicago 30 110
 chicken pox 233
 chinopodium album 241 *n*
 chiropractic 227 *n*
 Chittagong College 111 *n*
 Chittenden 251
 cholera 253
 Christian Science 208 *n*
 cilix 41
 circulation surface 237 241
chisakto 201 *n*
ctta ab
 and prapa 201 *n* *ff*
cattwitt 181 206
 civilization curse of modern 207
 cleanliness
 external 7 255 *ff*
 genital 176 177 178 *n*
 internal 7 192 255 *ff*
 climate 241 242 *ff*
 clitoris inactivity of 190
 clothing 241 *ff* 241
 cotton 245 *n*
 hygiene of 245 *ff*
 light 185, 245 *n*
 silk 245 *n*
 suitable colour for 241
 tight and confining 132 241
 cotus 190 194 *ff*

Index

- cold methods to avoid 46 47 ff
 colon 66 67 ff 70 102 *et seq*
 air irrigation of 89
 an useless appendage 88
 cure of Ch VII
 hygiene 86 *et seq*
 importance of a ckin 88
 89 ff
 its influence on health
 86 ff
 methods for cleansing 89
 118
 prolapsed 94
 sluggish 137 ff
 the chamber of disease 88
 water irrigation of 89 ff
Colon Hygiene 88 n 90 n
 93 n 107
 concentration 55 153 162
 181 213 241 256
 conclusion 259 ff
 contemplation
 positive and negative 182
 continence 163 168 182 183
 active and passive 186
 194 195
Conquest of Chronic Disease
 The Supplementary notes
 on 23 n
 consciousness
 and experience, 202 n
 brain its relation to 201 ff
 indeterminate 202 n
 mind and 165
 origin of, 201
 its relation to heart 201 n
 seat of 201
 various phases of 201 n
Conservation of Vision and
Ocular Hygiene 54 n
 constipation 90 n 98 ff 179
 causes of 72 f
 chronic 81 94 ff
 cure for 103 ff
 exercises to remove 94 ff
 record of cases treated 80
 81 ff
 consumption 126
 Courtney J W 204 n 205
 contribution a valuable 108 ff
 corn 249
 Cousism 203 n
 cowdung 244
 craving for stimulants and
 drugs 128
Creative and Sexual Science
 175 n
 Ciehore 205
 Crew Dr 21 f 71
 Crile 247
 cucumber all varieties 249
 culture
 mental 6 153 166 168 ff
 moral *ib*
 physical *ib*
 self 9 14 128
 soul 167
 spiritual 153 166 167
 curative processes allied 43 ff

D

- Dabistan-e-Hind* 21
 dairy products 248 ff
 dandruff 237
datana, 28
dantadanti 26 30 n
 five fold 38
 dates 249
 Dasgupta 116 n, 156 n 202 n
 deafness cure for 50

- De Anima* 201 *n*
 death 14 17, 125 216 *ff*
 causes of, 20 87
 premature 10 172
 Yoga outlook on 23 *f*
 degeneration 22
dehasuddhi 8 182
 deliverance 9 *n* 12
 demonstrations
 early, 116 *f*
 of organic control 18
 dental
 care Hypos system for 28
 canes, 25 30 *n*
 hygiene New 28
 infections 24 *ff*
 polishing stick 27 *f*
 dentifrice, 28 *f*
 dentist 26
 dentition faulty 26
 derma cutis 229
Desibandhu 18
Deslon 208 *n*
 desquamation 223 *f*
dharmachakra 104 *ff* 227
 varieties of 105 *n*
dharmic 213
Dharmakirta 9
dharm 75 *ff*
dharm 33 *f* 391
 pydostha 75 *n*
 diabetes
 emotional glycosuria 211 *n*
 fasting as a cure of 71
 nervous causes of 211 *ff*
 dry hragm 116 120 *ff* 128 *ff*
Dryhrajn and Its Functions
 etc. 121 *n*
 diet 77 81 89 159
 best for a vo_gm 219 *ff*
 279
 change in 247
 fruit and vegetable 248
 249 *et seq*
 full flesh 248
 high-protein 248
 improper 233
 low protein 248
 meat 248 251 *f*
 loss of taste for 161
 milk 197 *n*
 mixed 248 251 *n*
 moderation in 185
 non flesh 248
 prohibited 20
 proper adjustment of
 247 *ff*
 regulation in 89
 digestion 66 70 *ff* 219
 Beaumont's observation
 on 63 *n*
 disorders of 66
 exercises for indig_n 83 *f*
 impaired 70 *n*
 influence of teeth on 26
 digestive organs 67 *ff*
 care of the Ch VI Ch VII
 diphtheria 10
 disease
 a physical sin 11 *ff*
 communicable 207 *n*
 causes of 10 72 88 *ff*
 233 *f* 248
 due to imagination 208 *n*
 preventable 128 172 *ff*
 removal of 12 13 *ff*
 unity of cause in 70 71
 disinfection 244
 dissection of body 257 *n*
 dizziness 26 53
 douches use of 193
dratthasana 218 219
Dra Hlullungar see *Dr*
 theoric 161 *n*

Index

Dresden 230

drinks

stimulating 170 180 250

drugless healers 230

drugs 112

giantia 182

dwelling one man 244

secluded 8

Dynami Breathin 150

dysentery 253 "

E

ear 9 32

ache 30

canal, 33 ff

care of Ch III

drops 33

drum *ib*

middle *ib*

wax 32 f

method for loosening 34

education

Board of London 170 "

folly of modern 174

ideal of 173 174

object of 170 "

Education and Ethics 170

Education and Individual Welfare

170 "

Faber 27 30 "

chest 73

cephalic 240

Linhorn 71

circulations seminal with

holding of 194 ff

climatic 160 "

electromagnetic currents 150 "

influence of *it*

negative *ib*

positive *it*

elevation

in housing 243

sense of 167

spiritual and moral

elimination

methods of 89 ff

of person 87 232

organs of 86 230

Ellis Havelock 168

embryo development

emissions

nocturnal 219

occasional 170 "

premature 190 ff

sexual, 190 "

emotion 210 *et seq*

absence of 167

breathing and 1

freedom from 2

its influence on 1

violent 211

emotional expression

disturbances 21

emphysema 163

Encyclopedia of

Culture 53 " 1

endocarditis 26

enema 73 86 89 1

best positions

112 f

low and high 11

use of a sphygm

energy

conservation of

deflection of 1

life 196 f

nerve 196 "

voluntary tran

Engel 216

England 248

epidermis 220

equanimity 182 2

Index

- advocates of Physical Culture 210 f
 medical authority 19
 Franklin 194
 Freud 164 ff 168
Freud's Theory of the A *sex*
 180 "
 Freudian
 doctrines 165
 theory of sex 165
 Friedenberg 17 247
 fuel units
 philosophy of 247
 fruits 248 ff
 Fullers earth 240 "
 funnel
 for nasal cleansing 47

 (G)
gajalarani 76
gajalarani 76
 Galen 201 " 232
 Gall 201 "
 Gandhi V R 257 "
 gangrene 128
 gastric juice 66 68 ff
 gastritis 103 "
 gates food
 Kellogg on 66 f
Gaṇadaparāna 13 "
 gases internal 75 " 84 92 ff
 Gautier, Dr G, 70
 gaze
 left shoulder 62
 right shoulder 61
 gazing
 on the stars 55 ff
 sun and moon 47
 generative organs
 postures that influ-
 ence and abuses of 17
 genitals
 external handling of 17
 irrigation of 184 192 ff
 their cleanliness 179 184
 193 ff
 Germany 248
gharmanānta 13 49
 Ghisiwāla 3
 Ghislandi 180 " 242 249 "
Gheranāsāritā 7 " 19 "
 12 " 33 " 37 " 65 76 "
 86 101 " 145 " 187 "
 219 " 239 242 " 252 "
 253 " 254 "
 ginger 250 "
 glands
 degeneration of, 17 f 211 "
 drifting of 20
 influence of emotion on
 211 "
 secreting 20,
 sex 169 ff sex
 sweat 19,
 tear 195
 Goldschneider 250
 Goldthwait 221
 Gorakṣi 144 153 180 " "
 219 230 " 249 "
Gorakṣapūṭhā 5
Gorakṣasūtra 193 " 206 "
gorakṣāsana 188 ff
 gram Bengal 249 "
 Grant Medical Union 18
Great Epics of India 8 "
 Greene Dr 45 "
 Griffin & Co 236 "
ghṛitā 184

Index

ending line, 182
in food, 252

H

habit,
forming drugs, 209
of knowledge, 173
of wrong breathing, 128
sedentary, 214, 256
unclean, 179
unnatural, 175
lack, 3, 142
Lackel, 157
Læmisch, 115
our prophylaxis, 229, 236 ff.
salāsana, 84
Laldane, 141 n., 148
Hall, 211 n.
Halls Dally, 121 n
Halliburton, 20 149 n., 169
Handbook of Physiology, 20 n
149 n., 153 n., 201 n
handkerchief, 41
Haridāsa, Sadhu, 19 n
Hartley, 166 172 n.
Harmonic Gymnastics, 154,
216 n.
hastabhujaṣana, 94 n
Haṭha,
Yogi 60, 124 n., 142, n.,
186, 197 n 206
yogins, 198
Hatharatnākara, 43 n.
Hathayogapradīpikā, 7 n, 17,
35 n., 40, 105 n., 142 n.,
185 n., 188, 197 n., 243 n.,
252 n.
with *Jyotnā* 11 n., 21 n.,
52 146 n., 155 n., 184 n.,
187 n., 229, 244 n 250 n

Hathayogasamhitā, 13 n., 25,
35 n., 37 n., 76 n., 105 n., 193
Hauffman, 117
Hazen, 254
Hazard, 70
Herd, Dr., 27, 149 n.
herdiche, 50, 53, 128, 237
health,
curve of, 211
ideals 2 ff.
cultural effects of Yoga,
7 ff
Health Question Box, The,
27 n., 69 n., 245 n
healthy-mindedness,
religion of, 212, 213
heart, 26 *et seq*
diseases of, 52
functions of, 123
improvement in the action
of, 81, 220
stopping the beating of, 18
worn out condition of, 18
heat,
dark radiant, 243 ff
infra red, 243 ff.
regulation, 230, 231
Hemacandra, 55 n
hemispheres, 50
Hemimeter, 88
hepatic torpor, 104
herbs 249
heredity, 209
hibernation, 14 n., 250 n
conscious and voluntary,
13, 20
hibernating gland, 14 n
hibiscus esculantus, 249
Higher Practices of Yoga,
14 n., 43 n., 194 n

Index

- Hurdhed 247
 lungasthra repens, 249 *n*
Hindu, The, 56
 Hindu,
 ancient medical authorities 13 *n* 201 *n* 257 *n*
 medical science 201
Adamocela 249 *n*
 Hill 147 *n*
 Hippocrates 126
History of Indian Philosophy
 A, 202 *n*
History of Practical Yoga
 I 39 *n* 13 *n*, 153 *n*
History of Religions 19 *n*
 Hirschmann 180 *n*
 hives, 233
 • Hodge, 209
 Holbrook, 215 *n*
 Holmes, 211
 holonathuria pentactica 90
 homosexuality, 171 ff
 honey 193 249
 Hopkins Prof E W, 8 *n*
 hormone, 165 *n*
 hormone 13 *n*, 169 *n* 196 *n*
 housing
 ideal, 244 f
 proper location for
 242 ff
 Howard, 129, 131 *n*, 152
How to Live, 22 *n* 30 *n*
 53 *n*, 125 *n* 151 *n*
 212 *n*, 241 *n*
Human Physiology 153 *n*
 humidity 241
 hunger, control of, 71 137
 Hutchinson, 27, 231, 234
 hydrogen sulphuretted 91
Hydrotherapy 241 *n* 232 *n*
 hydrotherapy 159 192
Hygiene of the Brain and
 Nerves 21 *n*
Hygiene of the Brain and
 the Nervous System 204 *n*
 206 *n*
Hygiene of the Digestive Ap-
 paratus 26 *n*
Hygiene of the Vocal and Respi-
 ratory Apparatus, 37 *n*
Hygiene A Manual of Perso-
 nal 11 *n* 40 *n*, 54 *n*, 241 *n*
 hygienic
 a religious observance, 6 ff
 domestic and public 15
 240 f
 general 124 *n*, 178 185 Ch.
 XII
 ideals of Yoga Ch I
 individual 1, 10, 240 f
 mental, 54, 209 ff
 modern, 229 *n*
 ocular 53 f, 60
 Yoga, 12 13 *et seq*
 its antiquity, 1, 15, 259
 its scientific outlook, 1
 260
 its special features, 1 *et*
 seq
 preventive methods and 1,
 14, 153, 259
 Reference Board, 117 151 *n*
 hygienic
 life, a necessity, 10 ff
 hypnotism, 203
 hypocrisy, religious and ethi-
 cal, 172
 hysterical convulsions 228 *n*
 284

Index

I

- ila* 203 ff
- ideas
 - degraded on sex 170 ff 180
- imagination 202 *n*
 - diseases due to 203
 - cure for *ib*
- impotence 171
- inclined plane 92 93 ff
- index system of 3
- India 4 8 15 256 *n*
 - medical students in 19 *n*
 - mud pack 236 *n*
- India The Land of Miracles* 18 *n*
- Indian philosophy 116 *n* 156 *n*
- indigestion 72 98 211
 - causes of 103 *i*
 - chronic 26
 - cure for 103 *n*
- indol 87
- infection 25
 - cutaneous 233 f
 - preventive measure against 244
 - through food 239
 - through water 240 253 *n*
- influenza 40 46, 122
- Ingals 30, 31 *n* 37 *n*
- inhalation 36 106 ff
 - forced 126 (*et seq*)
- injection
 - hypodermic 161
 - opaque 115
- intelligence and cerebral evolution 200
- insanity 41 171 209
- inspiration (of breath) 121 ff
 - absolute 137 139 141
 - continuous 138
 - forced 126 ff
- Intestinal Ills* 73 *n*
- intestines
 - large 66 67 (*et seq*)
 - inflammation of 87 ff
 - internal kneading and massaging of 89
 - peristaltic action of 103
 - small 66 67 ff
- intestinal
 - gas 90 ff
 - exercises for removing 92, 93 f
 - toxemia 87
 - ulcer cure of 111
- Internal Secretion of the Sex Glands* 196 *n*
- interstitial nephritis 211 *n*
- invalidism avoidance of 8
- inversion sexual 171
- Itinerary of a Buddhist Pilgrim* 67 *n* 68 *n* 69 *n*
- itchmite 233
- Istara pt 1* 183 *n*

J

- jackfruit 249
- Jugisava 59
- Juna Yoga 9 53 *n*
- Junism *id*
- jal meti* 42 ff
- James William 212
- Jamison 72 73 *n*
- Janet 168
- jaundice 234
- jñānti* 249 *n*
- jñānānuśāhanam* 31
- Jnana Yoga 9

Index

- jugulu notch 96 f
 jujube 249
 Jung 165 n
 jussieu repens 249 n
Jyotana author of 182 n
- ## K
- Kafir* 32
Kalalasunda 249 n
 Kalaripara 204
Kapalabhati 35 ff
 kātalārama 13 18 ff
 cātalārama 35
 vyutkrama 13
Kapalarandhradhonti 35 ff
Karma 34
Karmadharmasam 105 n
Kanaramdhrahonti 34 ff
 Kashmiri 217
Katha Upanishad 183 n
 Kells 242
 Kellogg, 27 n 29 66
 68 n 88 83 90 n 95 n
 219 215 n 248
 Kempf 169
Kesala
 kumbhaka 139 ff 143
 jāyaka 137 139 143 ff
 śāyaka 141 143 ff
 śūnyaka 136 f
 Kharatum, 217
khicari 13, 186 ff. 194 ff
 kidney, 26 52
 influence of emotion on 211
 stomach wash and 89
 Kisch 168
 kissing hazard of 179
- Kitchen 121 n
 knee chest position 53 1 20,
 113 ff
 Kneipp Luther 234 n
 knowledge
 and experience 202 n
 objects of 1
 relative value of 5
 superior 182
 Kuhne Louis 68 n
 Kuhne 70
Kuyala 76
kukkuṭasana 84
Lambhaka 124 n 133, 148 ff
 śāyaka 139 ff
 śāyaka 139 ff
Kuvalayanandi 117, 147 150 n
- ## L
- Lacerta aquatica* 250 n
Lactat 90 n
Lactals 74
La Medecine d'orientation
 208 n
Lacgue 208
Law of Nature first 164
Law of the Rhythmic Breath
 The 150 n
Lectures on Respiration in
 Health and Disease 121 n
leguminosae 249
Leipzig 164 n
Leonard Hill, 235 n 243 n
Leich 233 236
lettuce 249
level
 moderate 241, 242
 set 13

Index

- libido 165 166 ff
- unsublimated 186
- life 127 ff
 - activity and breathing 125 130 ff
 - artificial 21
 - energy 157 197
 - foundation of 164
 - hygienic 7 240
 - married 163 ff 183 ff
 - modern 15 f 20s
 - moral, virtue of 178
 - two cardinal principles of 163 ff
 - wayward 184
 - Yoga outlook on 182
- Life Assurance Companies 43
- Life Extension Institute 3
- 151 n
- light
 - artificial use of 258 f
 - gazing on reflection of 59 ff
- Light of Soul* 212 n
- Lindlahr Dr 46 83 150
- 250 n
- Mrs Anna 250 n
- Lingjuran* 131
- Lipschutz 169 193
- literature see education
 - through 173 176
- liver is a refinery 67 (3) ff
- living
 - exaggerated 12
 - ideal of 1 253 ff
 - natural 1 et seq
 - nervous mode of 259 ff
 - outdoor 241 ff 245 ff
 - scientific 6 15 240
- Lode 236
- London 81
- longevity 1 12 13 ff 121
- 287
- 145 146 151 182 246
- rational measures for 1 et seq
- Lorind 211 n
- love 164
- Luckhardt 71
- luffa cuticula 241
- lumbo sacral vertebra 223
- lunar breathing 140 ff
- lungs 9 120 ff
 - degeneration in the ur-cells of 17
 - dilatation of 133
 - functions of 122 ff
 - massage for 146 n
 - organic control of 18
 - ventilation of 246
- Lupton H 141 n
- Lusk 248
- Lutes, Raymond J Jr 108 ff
- lymphatics, re-absorption through 194 196 ff

M

- Madhva 183
- Madhavadasa 188
- His Holiness Purna-bhansa 3 111 n
- vacuum 118 n 194 n
- Madras Mad* 50 n
- Madhavi* 18 185 n 20s
- Madhavi* 18 185 n 20s
- Madhavi* 18 185 n 20s
- Madhavi* 18 185 n 20s
- malades immatures 20s
- mal'ed the* 19
- Malchow 164 181 n 185 n
- Makar 4

Index

- mango 249
 Muntoux 140
 Mann 184 "
 Mannsmite 185 "
 manulicheu 165
 Margaret Sanger Mis 133
 marriage 171 ff 180
 Marathi 102 "
 Marathi inde sap rama 202
 masculine protest 160 "
 masochism 171
 mastication 67
 imperfect 26
 massage 62 63 159 226 206
 internal 106 187
 masturbation 171 170 "
 among boys 170 174 "
 among girls 16
 maternity 175
 mathas Yoga
 at Bohar 3 219 "
 at Tillyah
 Matsyendra 153 220
 Matsya udasambhuta 219 "
 Matsya drasana 221 ff
 and 11 225 ff
 Maxick 218 "
 Mayer Dr E 41 "
 McCollum 248
 Mcfadden Bernur 53 71
 Memcol 2
 McSorely 160 161 ff
 McSutton Dr G 3 199 "
 meals frequency of 202
 messels 40 233
 mechano yoga appliances 47
 92 "
 Medical Deymonis 45 "
 medical reports of organic
 control 18 13
 neglunadi 249 "
 Verne Hesse 1 234 "
 Meltzer 18 117
Meme stilet 207 "
 menispherum glabrum 249 "
 mental
 activities and respiration
 153 ff
 attitude in life 207
 counts 145
 equipoise 54 150 ff
 excitement 155 ff
 hygiene 180 200 *et seq*
 concentration and 210 ff
 education and 210 f
 freedom from emotion
 and 210 f
 modifications 181 200
 Yoga 16
 Mental Hygiene 168 211 "
 mercury 193
 meridians 203
 mesmerism 208 "
 Metchnikoff 201
 microbes 41 131
 invasion by 122
 Viller Prof 27
 Millet 125
 milk 193 197 "
 and milk products 213
 mind 8 12 147 104 ff
 and sex 168 ff
 attitude of in life 207
 breath and 150 ff
 brain as an organ of 200
 201
 conscious 160 160
 health of 12 168
 organ 202 "

Index

- stuff, *ib*
- subconscious 165
- unconscious, 165 166
- mineral,
 - oil 89
 - salts, 250
- mitahara* 252
- moderation, 137, 179, 213 252
- monastery, Yoga, 3 243
 - specifications of 243 ff
- monkey gland 17
- moon, 14
 - gazing on, 55 f
- Moore, C F, 19 "
- Moriglia 170 "
- morbidity, 242
- moral,
 - code 181
 - hygiene 185
- morbidity, 242
- Morris 170 "
- motherhood responsibilities
 - of, 172
- Motherhood and Relationships of the Sexes* 166 " 172 "
- motion, 163
 - function of prana and 157
- mouth 65, 66 ff 122
 - care of Ch III
 - drugs, 25
 - hygiene of *ib* ff
 - infections through 25 f
 - secretions *ib*
 - wash, 27 29 f
- mitasanti*, 219
- mud
 - black, 236 f
 - Indra *ib*
 - packs, 235 ff
 - washes, 236 f
- mudrā* 186
 - āsana* 186 187 ff
 - theṇa* 13 ff 186
 - sāmbhavi* 60
 - vajroli* 185 *et seq*
- Mukerjee Prof 117 "
- mul ta vi / sāsa* 102
- muktāsana* 186 "
- mul ti* 12
- mulabimlha* 186 "
- Mullet J P 121 "
- Muller Dr 88
- Munlaka I pamsal* 183 "
- Munde 194
- muscle
 - abdominal 102 ff
 - anal 187
 - control 218 "
 - facial 134
 - hemstring 222 ff
 - intra abdominal 105
 - relaxation 216 216 ff
 - urino genital 187 190 ff
- Muttart 103 "
- My Breathing System* 121 "
- Myerson 211
- Mysterious Kumbhalaṇa The* 18 "
- myxodema* 211 "

N

- Nacke 170 "
- nails care of 229 236 f
- nakta bhajana* 253
- Nandhi cā araparāna* 243
- Napoleon 5
- nasal
 - cleansing 40 ff 131
 - influence of, 45 ff

Index

- importance of 40 f
- methods of 42 ff
- douche 42 ff 47
- size 60 f
- obstruction 43 ff 50 134
- passages 46 f 48 ff 132
 - care of 42 *et seq*
 - dilatation of 50
- siphon 47
- Natural Dietetics* 250 ff
- Natural Methods of Healing* 127 ff
- Natural Therapeutics* 16 47 ff
 - 150 ff 196 ff
- Nature
 - Colomes 245
 - cure 74
 - methods 235
 - study and love of 215 246
- naturopaths 62
- nuch 89 ff 192 ff
- Nanny 211 ff
- nuclei 53
- nude 203
 - nudith* 206
 - tanta* 204
- Nagesa 124 ff
- nectar 13
- Nemeyer 126 f
- Neo Naturopathy* 68 ff
- nerve
 - action of 204 ff
 - anatomy and physiology of 202 ff
 - as electric discharges 204
 - electric in nature 203
 - fibres 204 ff
 - impulses 203 ff 204 ff
 - five-fold 206
 - optic 53 ff
 - seventy two thousand 203
 - sympathetic 84
 - tissues degeneration of 221
- nervous
 - debility 207
 - diseases 206
 - exhaustion 52
 - influences two sets of 149 ff
 - instability 128
 - irritability 209
 - shock 211
 - strain 207
 - weakness 209 ff
- Nervous System and its Connection with the* 204 ff 205 ff
- nervous system 9 59 192 ff
 - 200 ff
 - as in electric plant 204
 - as a telephone exchange 203 ff
 - brain and care of Ch N
 - cerebro spinal 202 ff
 - comparison to telegraph 203 ff
 - control and importance of 206 ff
 - derangement of 180 237
 - disorders of 206 ff
 - due to psychic conditions 203
 - chemical causes of, 209
 - mechanical causes of 203
 - impairment of 221
 - optic 40 52 53 ff
 - pathologic fatigue of 209
 - purification of 206
 - sedative effects of breathing on 145 152 ff 214 228
 - sympathetic 150 ff 188 ff 206 ff
 - voluntary, 191
- net 34 f, 42 ff 81
- pharmacina* 43 44

Index

jala 42 ff
samanya ib, 48 49
sultha 43
ya-jala 43 n
 neurasthemia 207
 neurology *Yoga*, 202 et seq
 neuroses 168 180 209
Neurotic Constitution The
 165 n
 neutralization and rhythm of
 breath 145 149 ff
 New Jersey 3, 205
 New York 3 37 80 82 110 f
 116 n 205
New York Herald 17
New York Times, 103 n
Nineteenth Century 21
nyama 181 213
 non Indian *Yoga* investi-
 gators, 167, 201 n
 nose care of 9 96 Ch IV
 nostrils 122
 closure of one 12
 dilatation friction and
 rubbing of 43
 positive and negative influ-
 ence of 142 ff 149 ff
 threatening of 42
 then relation to breathing
 134 ff 149 ff
Not the Disease only But also
the Man 210 n
 nutrition 53 163 196 ff 201

O

obesity 104
 observance 181
 preliminary 131 ff
 Yoga 213
 291

occupation
 monotony of 214
 sedentary 241 n
okra 249
 old age 14 19 20 42
 and youth, 130 131
 causes of 17 f 87
 Oliver 80 n 87 88 n
 organic control a few demon-
 strations of 18 f
 organism 190 ff 194 ff
 ovaries 169 176 n
 over
 eating 178
 strain 258
 work 209
 ovum 157
 oxidation 17 34 f 75
 oxygen 122 ff 156 n
 absorption 144 145 ff
 common carriers of 123
 concentration of 241
 debt 147
 discoverer of 126
 interchange of 141
 supply 125
 value 133 246
 oxygenation 84 192 ff

P

parental influence 210
 parasites animal 26
 parathyroid %
patasmatasmatas 84 221 ff
patasmatasmatas ib
 passion 164 179
 passion consciousness, 182
Patanjali 120 n 124 n
patol 249 n

Index

- Paul 149 159 *n* 250 *n* 251 *n*
pranamuktasana 92 ff
dalanaṣṭāda 94
ramapāda *ib*
 Pel 211 *n*
 perception
 determinate 202 *n*
 indeterminate 202 *n*
 skin as an organ of 230
 Perkins Mr & Mrs 160
 perspiration 231
 perversions sexual 171
 pessimism cause of will
 future 207
 phaseolus mungo 249
 phaseolus raditus *ib*
 phenomena 23 112
 Philadelphia 160
 College of Osteopathy
 103 *n*
 Government Laboratory
 at 160 *n*
 phlegm 32
 phlegmatic humours 37
 physical culture 63 74 145
 179
 Yoga 182
 physical efficiency 12
 physiology 163 175
 Yoga 257
 Picard 232
pinṇā, 203 ff
 plasma rejuvenation of 22
 71
 planarian 249
 Photo 201 *n*
prāṇa breathing 84
 pleasure principle biologic d
 163
 Poehl's experiments 196 *n*
 poison elimination of 4 7
 19 ff
 pollutions nocturnal 191
 polypi 34 40
Popular Medicine 19 *n*
 Porto Rico 248
*Positive Sciences of the Ancient
 Hindus* 201 *n*
 postures 58 83 *et seq*
 Yoga rationale of 90 *et seq*
 potherbs five 249 *n*
 Pouillet 170 *n*
 powers supernatural 191
*Practical Illustrations of the
 Physical Gestures and Action,*
 216
pratīkṣasāhīti 182
prāṇa 120 *n* 156 ff 204 ff
 conservation of 145 156 ff
 micro-cosmic 157
 function of 157 ff
prāṇāyāma, 202 *n* 204 ff
prāṇāyāma 120 *n*
 anulomaviloma 142 *n*
 four fold 121 *n*
 one round of 144
 suryabhedhanti 142 *n*
pratyahara 213
 pregnancy 137 172
*Preventive Medicine and Hy-
 giene* 141 *n* 166 *n* 169 *n*
 173 *n* 176 *n*, 195 *n* 207 *n*
 pressure
 atmospheric 129
 blood
 rise and fall in 26
 changes 151 ff
 intra abdominal 147 ff

Index

intra oesophageal 147 ff
 intra pulmonary 140 *ib*
 intra thoracic 140 147 ff
 186 ff
 negative 152
 positive, *ib*
 Priestly 141 *n*
Principles of Mental Hygiene
 169 *n*
 Prochaska 201 *n*
Proper Medical 208 *n*
Prolongation of Life 41 *n*
 prophylaxis
 individual 15 ff
 personal 8 *et seq*
 venereal 177 ff
 prostitute 185 *n*
 protection, and skin 230 231
 proteins 247 f, 250 ff
 deficit 249 *n*
Psycho Analysis 163 *n*
 psycho analysis 163
Psychological Principles 211
 psychology 168
 objective, 202
 subjective *ib*
 psychologist 154 160
 psycho-physiological parallel-
 ism 201 *n*
 psycho sexual tendencies 171
 180
 psychoses 163
 puberty, 163, 170 ff 175 210
 puffiness 52
 pulse rate exaggeration in
 241
puskara, 249 *n*
pusaka 124 *n*, 137
 293

purgatives, drastic 112
 purification 193
 internal 1 7 ff
 of the body 12 182
 purificatory measures Yoga
 182
 putative body and emotion
 211 *n*
 Putnam 165 *n*
 Putnam J J 210 *n*
 Pyle 11 40 *n* 53 241 *n*
 pylorus 63 253
 pyorrhea 23

Q

Quarterly Journal of Medicine,
 147 *n*

R

radio
 activity 236 *n*
 graph 114 f 116
 Raudall 33
Ratnam 23 *n*
Rational Therapy 233 *n*
 rational therapy 71
 re absorption
 of poison, 232
 of sex fluid 194 ff
radika 113 111 ff
 recreation 203 214
 reflex sensibility 230
 Remcke 253 *n*
 rejuvenation, 17, 21 196 *n*
 art of 19 ff
 through breathing 123 ff
 through fasting 71

Index

- relaxation
 art of 215 *et seq*
 postures for 218 ff
- Rele V G 18
- religion of healthy minded
 ness 213
- reproduction 173 176
 capacity for 164
- reproductive organs 163 *et seq*
 artificial stimulation of
 170 ff
- respiration 210
 depth of 146 ff 241
 four fold act of 123 ff
 free 49
 incomplete 128
 internal 141
 three fold process of 124
 through skin 230 231
- respiratory
 act 122 153
 apparatus 9 122 ff
 care of Ch VIII
 centres 141
 exercises 134 ff
 hygiene 136 *et seq*
 muscles 120 126 ff
 passages 122
- rest 203 206 208
- restraint 181 184 213
- relax, 157
- retention (of breath) 124 131
 ff
- Rigida 6 183
- rheumatism 40
- Rhythmic Exercises 106
 215 223
- rice 249
- Rice Dr Phillip 7
- Richardson 108
- Rings disease 29
- rim glottidis closed 149
et seq 233
- Ricketteller Research Insti-
 tute 18 117
- Richman 230
- Reid 218
- Roller 245
- roots medicinal 249
- Rosenau 141 148 169 173
 190 244 254
- Rowlinson 2
- Rubner 248
- Russian author and deep tea-
 thing 120
- ## S
- sakhalina 106 108 ff
- Sakhalina 106
- Sakhalina 60
- Sakhalina 107
- Summa 186
- Summa 218 219 ff
- Summa 198 ff 198 227
- Summa 14 17 105
 163 181 215
- Summa 124 136
- sadism 171
- safety factor of 141
- Sakhalina 203
- Sajous 211
- saliva 50 66 ff
- salmon 207
- salt
 injurious to health 259
 mineral 250 251

- śamukhā* 206
 sanitation 242 ff 254
śāṇkrit,
 authorities on *Yoga* 12
 75 *n*
 glossary 3 263
 manuscripts 3
 system of transliteration 3
 texts 4
Śaṅkhaśāstra *śāstra* 23 *n*
śāstraśāstra 95 ff 188 227
 different forms 96
Satwika 102 *n*
 scalp cleanliness of 236
 scarlet fever 40
śāntaśāstra 1 *et seq*
 Scott 157 217
 Seal BN 201
 secretion 210
 gastric 66 ff
 internal 96 163 163
 seminal 193 194 ff
 decomposition of 193
 preservation of 195
 self
 abuse 170 190
 culture 9 14 128
 demand 179 197
 poisoning 25 72
 preservation 18 164
 propagation 164
 treatment 1 20 24
 during health and disease
 76 *n*
 semen 196 *n*
 sense data 202 *n*
 -complexes 230
 senses
 external 202 230
 internal *et seq*
 septum deformity of 40
 sex 163 *et seq*
 abuses and dangers of 178
 consciousness 174
 cultural effects of 166 ff
 degraded ideas on 179
 desire 167
 education 172 *et seq*
 at the home 173 177
 by literature 173 178
 in the school 173 ff
 emotions 166
 energy 167 180 188
 fluids 194 ff
 glands endocrine 169 179
 ff 197 ff
 internal secretions of
 163 193 ff
 hygiene 163 *et seq*
 modern 179 ff 185
 Yoga 184 *et seq*
 impulses 168 170 180 ff
 matters
 evils of ignorance in
 169 ff
 purity in 167 168 179
 184
 mental influence of 168 169
 moral influence of 167
 plagues modern 177
 physical influence of 166
 169 ff
 practical suggestions on
 185 ff
 psychoanalytical approach
 to 164 165
 relationship of to mind
 168 ff
 sense 164 170
 spiritual influence of 167
 sexual
 abuses 177 190 ff
 acts 172

- dispassion towards 181
 182 184
 unsatisfactory 190 ff
 craving 179
 debility 188 190 ff
 excitement 186 ff 190 ff
 instinct 163 ff 168 176 n
 182 ff
 intercourse 176 n 182 ff
 life unclear 171
 organs 9 169 *et seq*
 activity of 186
 cleanliness of 178 *et seq*
 congestion of 190 ff
 inflammation of 190 ff
 irritation of 179 190 ff
 massage for internal 187
 their specific purpose
 176
 relations 171 ff 197 ff
 unhygienic 171 ff
 secondary characters 169 n
 quality 164 197
 elimination of 181 n
cool Life The 164 n 168 n
 170 n 181 n, 195 n
 impoising powders 237
 w 131
 w Bernard 21
 w and Troyer 21 n
Saddh sadhantapradhiti 150 n
saddhasatva 58 59 137 143
 sight, improvement in 10
 signal surface 48
 skatol 87
 skin
 and its appendages care
 of Ch VI
 absorption through 230 ff
 as an organ of sensation
 230 f
 breathing through 172 231
 chapped 232
 diagnosis method of 231 v
 diseases 233 ff
 dry 232
 functions of 229 ff
 heart 232 234 ff
 hygiene need and import
 ance of 233 ff
 influence of sun air water
 and mud on 231 232 ff
 itching 233
 kidneys and 232
 scaly 233
 superficial 229
 tome 236
 true 229 f
 ventilation of 235 ff
 sleep 4 237
 best position for 218 219
 disturbed 160
 dreamless undisturbed
 237
 sleeplessness 128
 sneezing how to cause 18
 snoring filthy habit of 128
 cure for 50
 soup 237
 soda bicarb 76
 solar breathing 111 n
Song Celestial The 212 n
 soul
 culture 167
 culturists 8, 153
spiritualist 230
 Spencer Herbert 5
 sperm 157
 spermine 196
 spaces 230
 spunch 219
 spunc,

Index

- curvature of, 221 ff
- deformities of 122
- exercises for twisting of
221 222 ff
- spinal adjustments, 227 n
 - canal 17
 - circulation 221
 - cord 203 223
 - fluid 13 n
 - muscles 221, 223 ff
- sprayers 193
- sprouts 249
- Spurzheim 201 n
- Stangers Welfare Fellowship
80
- starches 250 n
- starvation,
 - treatment 71
 - rejuvenation through 21
22
- Stebbins 154 158 216
- Stirling 200
- statue posing 216
- at 11 55
- Stiles 157 204 n
- stimulants 173
- Stockton 26 n
- stomach 65 ff
 - care of Ch VI
 - dilatation of improvement
in 82
 - diseases of the coats of 69
 - healthy and non perverted
252
 - overdistended 130
 - prolonged 94
 - responsibilities of 71 ff
 - wash 65 74 ff
 - constipation cured by
80 ff
 - lavage system for 79
- physiological effects of
79 f
- weight reduced through
81 82
- useful suggestions for
82 83
- various processes of
75 ff
- tube 73 79
- weak 137
- Studies in Human and Compa-
rative Pathology* 234 n
- sublimation Yoga method of
180 ff
- Suckdorf 87
- suffocation 161 162
- sugar 249
- Sukim 217
- sul ra* 157
- Sunshine and Open Air* 235 n
243 n
- surya di jana* 55 f
- si sumna* 203 ff 206 ff
- Susruta 201 n 257 n
- Satrasastra nam* 13 n 157 n
158 n
- Svatmatama 184 186 n, 243
249
- sweets 248 249
- synthesis function of 202 n
- systems of Indian thought 9
- Śatcatra mupani* 204 n
- Sitakratavritti* 157

T

- Taittiriya* 157 n, 158 n 183 n
- Tantric writings 201 n
- Tishiro 200

Index

- teeth
 care of, Ch III
 diseases of 20 ff
- testicles 169 *n* 176 *n*
- testimony remarkable 159 ff
- Therapeutic Surgery* 158 *n*
- thorax deformities of 96 122
- thyroid 96 211 *n*
- Pills 3
- time
 measure in breathing 144
 selection of 208 ff
 suited for practice 209 f
- time table
 hygiene See
- | | |
|------|-----|
| I | 34 |
| II | 50 |
| III | 63 |
| IV | 84 |
| V | 118 |
| VI | 161 |
| VII | 198 |
| VIII | 227 |
| IX | 237 |
- tongue 30
 care of, Ch III
 coated 31
 cleansing of, *id*
 retroverted 186
 scrappers 32
- tonsils 50 45 *n*
- toothbrush 27 ff
- toothpowder *ib*
- trataka* 52 57 ff
 bl rnamulhyi 61
 al'lsinajatra ib
 nam'ipa 60 f
 sinajiti 62
- Lecture on the Logic of Philosophy*
 Jlg A 159 *n* 251 *n*
- trichosanthus diocet 249 *n*
- tubercle bacillus 45 *n*
- tulaculosis 122
 and deep freething 120 ff
- turner 200 *n*
- Twill 83
- [
- Hegnet* 103 113 ff 121 *n*
- Umar 232 *n*
- upall'wasu* 94 f
- Uptanaka*
 cylinder 153 183
 reference to 10, 13
- uridha padmasana* 102
- ustrasana* 94 f 106
- utatasana* 34 *n*
- \
- vacuum 192
 abdominal 117 118
 Mudhyadasa 118 *n*
 putral 136 *n*
- vaginal orifice 190
 irritation of 190 ff
 withdrawal of secretions
 from 194 *n*
- vagus 149 *n*
- varicella 185 *et seq*
 process of, 192 ff
- stionam* 193
- ramanadhori* 76 79
- variety of Helios & Laperien*
 ces 21 *n*
- Visu 19 *n*
- Vacispatti 124 *n*

Index

varicellaria 106
varicella 76 *n*
varicellulosa 249 *n*
varicella 75 *n*
vayu 120 *n*
 Vedānta Yoga 9
 Vedic period, 183
vegetables 89, 248 *ff*
venerer
 diseases, 171 *ff*
 dangers of 173 *ff*
 and students, 176 *n*
 prevalence of 171
 peril 176
 prophylaxis 177 *ff*
ventilation 192 232 240 *ff*
 important features of 240
 ff
 negative 149 *n*
 of lungs 140 148
 positive, 149 *n*
Venus 5
vertigo 23
Vienna, 162 *n*
Vierordt 148
Vigil 87
Vijnana Bhiksu 124 *n* 184
virility preservation of 176 *n*
 182 *n*, 186
virtues negative and positive
 213
visitation 182
visual defects 22
vitamin 83 247 *ff* 251
Voronoff Serge 17
virchow 102 188
virchowiana 106
Vyasa 124 *n*
 299

W

water 253 *et seq*
 defecation aided by 255
 infected 240
 internal uses of 254 *ff*
 external uses of 254 255
 ff
 sniffing 43 *ff*
 objections against 47
 reasons in favour of, *ib*
 reverse process of 48 *ff*
 supply 240 *ff* 253
Ward James 210
war neurosis 207
Washington 214
Weber Sir Hermann 146
wheat 249
White Memorial Hospital 4
White Dr., 169
Wien 164 *n*
Williams 205
Willis 201 *n*
wind pipe 122
Wise's Commentary on the
 Hindu Medicine 257 *n*
Woodwards 175 *n*
Worcester Lunatic Asylum
 175 *n*
World Magazine, 200 *n*
work 256
wrinkles stiff joints 150

X

X-ray 117
 experiments of, 121 *n*
 investigations 115

Index

Y

- yama* 181 213
Yajñavalkya 180 n 186 n
 213 n 243
yastilasana 218 n
yoga
 eightfold path of 184
 masters 7 73 153 193 197
 personal hygiene 1 2 et
 n f
 fivefold purpose of 11
 ff
 treatment 37 159 ff
 terminology 156 n 201 n
Yogi Breathing Methods 81 n
 121 n 146 n
Yogibhy 184
Yogicintamani, 252 n
Yog³ Institute
 in America 3 37 110 f
 in India 3
Yogikāṇḍarūpā 43 n 55 n
Yogikāṇḍubhā, 43 n 55 n
Yoginairjapikāśika 57 n
Yogi Mental Hygiene 14 n
 183 n 210 n
Yogi Minima 96 n 102 n
 118 n 121 n 147 n 152 n
 156 n
Yoga Postures 84 n 122 n,
 219 n 211 223 n
Yogi Pancha Prasthāy 120
 n 121 n 202 n
Yogīśvara 7 n 106 n 19
 n 201 n
Yogīśvarīdharma 206 n
Yogīśvarīdharma 13 n
Yogīśvara 100 n 203 n
Yogīśvarīdharma 121 n
 184 n
Yogīśvara 55 n 185 n 213 n
 244 n
Yogīśvarīdharma 120
Yogīśvara 188 n
Yogīśvara 7 n, 124 n, 163
 181 n
Yogīśvara 49 n 223 n
Yogendra Shri 9 n, 13 n
 106 n, 153 n 183 n
yogi 1 19 33 13 et seq
 a hygiene curiosity, 14 ff
 210
 a supernatural being 19 n
 married 207 n
 misrepresentation about
 1 ff
 scientific 2 8 260
 perfect 212 n
youth eroticism of 173
Yugulāsa 186 n

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